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69 East 79th Street, New York. Carrère & Hastings, Architects.

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## The Pecuniary Relation Between Architect and Client

At its last annual convention, the American Institute of Architects took a step which has been contemplated and discussed for a great many years, and which will have a most important effect upon the future prosperity and standing of the profession in this country. Its members unanimously agreed to raise the minimum charge for their professional services from five to six per cent. The explanation officially given for this step is contained in the following words: "While the remuneration of the architect has not advanced during the past fifty years, the cost of production, office expenses and draughtsmen's salaries have nearly doubled; proper equipment requires a longer preparation, a more thorough education; and the responsibility of the architect has been enormously increased by the requirements of the modern structure, with its engineering, mechanical and electrical equipment." In short, the official explanation is that an architect's services are worth more than they were forty years ago. An architect has the same justification for increased charges as have physicians, lawyers or painters. Furthermore, an important element in the increased cost of an architect's services to himself (and one which has not been mentioned in the official explanation) is the more expensive prevailing standard of living. The money an archi-

tect actually clears over and above his expenses will not go anything like as far as it would have forty years ago, while his own needs, together with those of his family, have in the meanwhile become more numerous and exacting.

It is not difficult, consequently, to make out a sufficiently strong case on behalf of the moderate increase in minimum fees established by the Institute, and it is very much to be hoped that the individual architect will not have any difficulty in enforcing the higher rate of remuneration. His success in so doing will depend upon his ability to convince his clients that his services are really more costly and valuable, and in this effort it is not to be expected that all of them will fare alike. For years certain architects have had no difficulty in obtaining for their services a substantially higher rate than that established as the minimum by the Institute. On the other hand, there are many architects, not members of the Institute, who have not hesitated to offer their services at less than the old rate of five per cent., and according to current accounts, there have been cases in which members of the Institute have surreptitiously made their services to their clients cheaper than the former five per cent. rate. The occasion, consequently, tempts one to inquire whether the architects, who abide loyally by the new schedule, will suffer in competi-

tion with the architects who ignore it; and this inquiry will involve some consideration of the many-sided and ambiguous problem of the pecuniary relations between architect and client.

There is no reason to believe that the increase of the minimum fee will make it any more difficult in the future than it has been in the past for the high-priced architect, with an established position to compete with his lower-priced professional associates. Of course architects, who have found it difficult to convince their clients that their services were worth five per cent., will find it even more difficult to convince their clients that their services are worth six per cent.; but architects, who are in that situation, do not effectually compete with those who never even consider a job offered at a lower price. Cut-rate architects compete not with their higher-priced associates, but with one another. In this respect the situation will remain just as it has been in the past. There are many buildings erected every year in this country chiefly by speculative builders, whose owners believe that they cannot afford to pay the Institute's fees. These builders frequently employ men who hang out their shingles as architects to design their houses and these architects are paid either a fixed sum for the necessary drawings, or else some very low percentage. In such instances the speculative builder is quite right in not paying anything more for what he gets than he does pay. He wants, cheap, slovenly mechanical architecture. He pays for it, and he gets it. As long as residences, apartment houses and loft buildings are erected by speculative builders for sale stereotyped and vulgar designs are bound to be demanded, and cheap designers to be employed. Houses erected by speculative builders possess the same general characteristics in France or England as they do in the United States.

The only possible client for the high-priced architect is the man who is having a building erected for his own use and occupancy; and in the attempt to secure the business derived from this

source, the cut-rate architect is frequently able to underbid certain of the standard-rate architects. There are, of course, many high-priced architects, whose standing in the profession, is so well established, and whose clientele is so numerous and so loyal, that they can charge anything in reason for their services. An increase in the minimum fee will be wholly to their advantage. On the other hand, there are also many young and well trained designers, whose practice is in its infancy and whose reputation has not become established among a sufficiently numerous group of clients. Young men in this situation may not be able to pick their jobs. Owing to the ignorance or the low standards of individual builders, they have suffered from the competition of regular cut-rate architects, and they have felt themselves obliged to accept work at less than the minimum fee, because they believed that they could not obtain it on any other terms. Thus, although capable of better things, they have frequently been reduced to the ranks of their ill-trained competitors, who were not capable of thoroughly designing a building and whose services were not really worth the standard rate. It is young men in this situation who may suffer some disadvantage from the increase in the established schedule. Public opinion has little by little become pretty well accustomed to the old five per cent. rate. Many builders of private houses, who would not think of protesting the customary charge, would consider the higher rate as exorbitant, not because it was exorbitant, but because a man's first instinct is always to consider an increased charge unnecessary and excessive.

It should, however, be most emphatically proclaimed that an architect who does not maintain the standard rate is not only injuring by implication his professional associates but is making a grave personal mistake. He is throwing away the advantage which an architect as a professional man has over a physician or a lawyer—the advantage of having a fair standard of remuneration,



established by general consent. A physician or a lawyer is practically obliged to charge whatever the traffic will bear; and there is, consequently, an arbitrary element in their bills which frequently introduces a purely business motive in their relations with their employers. But the architect, more than the physician and the lawyer, at least has the chance of emancipation from any such doubtful element in his pecuniary relations with clients. A minimum rate of remuneration has been officially established for the profession; and the maintenance of such a rate intact should be a point of honor with every ambitious architect. The standard rate, just in so far as it is maintained, makes the architect independent of ordinary business competition. His rivalry with his brother practitioners would not thereafter take the form of trying to underbid his competitors, or of seeking to produce the work cheaper than they do. It would necessarily take the form of trying most zealously and completely to earn the established fee. The architect, consequently, who cuts the standard rate is faithless to the interest of his profession. The standard rate can be maintained under American conditions only because individual architects adhere loyally to it; and every architect who cuts it is cheapening his own services, and by implication those of his fellow-practitioners. He is becoming what is known in other branches of industry, as a "scab", because he has permitted some apparent individual advantage to stand in the way of the maintenance of professional standards, indispensable to professional independence and excellence of work.

We are not so innocent as to believe that a standard professional rate of remuneration can be established or increased in a country like the United States without a struggle and without individual sacrifices. The American architect has to derive his clientele from a class of men, many of whom do not understand the nature and importance of professional and technical standards. It is indispensable for the future of American architecture that the building

public should be educated to appreciate the importance of an architect's professional and technical point of view. Something can be done to accomplish this end by the inculcation and the popularization of sound ideas; but the bulk of the work must necessarily fall upon the architects themselves. In the long run the more ignorant but still well-intentioned part of the American public can be taught to put a sufficient value on an architect's services only because the competent architect will not sell his services at any cheaper price. On every occasion when a comparatively uninformed but well-intentioned client comes into business relations with a competent architect, a salient opportunity exists for the most effective kind of education; and in case the architect compromises any essential matter, either in respect to his fees or in respect to his work, the opportunity has been thrown away. Of course, by failure to compromise an architect may lose a job, and more than one job, but standards cannot be imposed upon a standardless public without many individual sacrifices. The desired result can in the long run be accomplished in no other way. A man, who wants or believes that he wants good architecture, must be taught that he can get it only by recognizing absolutely the established professional rules.

The association which we have implied between good architecture and high-priced architecture may seem forced to some readers. Yet a little consideration should convince them that it is not forced. Of course, it is conceivable that a high-priced mediocrity would design for his client a far inferior building than some clever beginner, who felt himself obliged to take anything he could get for a job. Such cases will occur, but they cannot occur often. In the long run the cheap job becomes inevitably the second rate job. The architect who cheapens his own work to his client has forfeited his personal and professional independence. He has placed himself in the position of being an agent to execute another man's orders, and he will be obliged to yield

to the wishes of his employer, no matter how much they clash with the dictates of his own technical knowledge and ideals. He has necessarily diminished the value of his work in his own eyes, so that little by little he loses all interest in it as a designer, and becomes content to reproduce mechanically the sort of building which his experience has taught will satisfy, deceive and consequently further corrupt the average popular taste. Even if the competent cut-rate architect should be fortunate enough to fall in with a few clients who were willing to give him a free hand, his hands would nevertheless be tied by the consequences of his own act. The cut-rate architect cannot afford to study his design thoroughly and patiently. He cannot afford to revise mistakes or to add improvements, or to try experiments. The margin of profit is so small that in order to avoid converting it into a loss he is obliged in the long run to design in a stereotyped and mechanical manner. The relation between cut-rate and inferior quality is in the field of architecture obvious and inevitable.

The most effectual way, consequently, for a man to secure an inferior grade of architectural design is to beat down the pay of his designer, and it is no less true that the most effectual way for the architectural profession to improve its standing with the American public is within limits to establish and maintain a high standard of remuneration. The best means of making men value something is to see that they pay sufficiently for it.

People naturally prefer cheap service and are always seeking to make and keep it cheap; but they never have much respect for service or servitors obtained on such terms. On the other hand, the demand on the part of an employee that he shall receive a large and an increased remuneration is a sign of an independence and a challenge to his employers to do without him, if they can or dare. Hence it is that the increase in the established fee is the one sufficient method of forcing the American public to attach an adequate value to current American architecture. The

profession has challenged its employers to consider whether architecture as practiced by the better American architect is not worth more money; and the fact that the challenge has been issued is the best possible indication that it will not be seriously disputed. The Institute would never have taken such a decisive step in case its members had not known that their work was worth more than it used to be worth, and that their clients both appreciate the improvement and are prepared to pay for it.

A generally higher rate of professional remuneration imposes, however, a peculiar responsibility upon every beneficiary of the increase—the responsibility, that is, of really earning the increased fees. The architect who asks and obtains the full charge without doing anything sufficient to earn it is doing an extremely serious damage to the profession. That such cases exist, and exist in sufficient numbers to constitute a certain danger is unquestionably true.

The minimum fees established by the Institute leave a comparatively small margin of profit to the conscientious and painstaking architect; but they leave a comparatively large margin of profit to the architect who is satisfied with grinding out a stereotyped but fashionable brand of design. An architect may, perhaps, begin his career with the full determination to do his best at any reasonable personal cost; and he may build up a remunerative practice as the result of such a determination. But with success may come increased wants and the desire to expend more money; and he may gradually drift into the habit of cutting down the cost of his work at the expense of its quality. By so doing he can unquestionably make a great deal of money; and such is the standard of American popular taste that he may continue such practices for years without being discovered. While he may lose caste with his colleagues, he may be able to keep his clientele either by the excellent business organization of his office or by pulling strings of social influence. Just, however, as the cut-rate architect is a

"scab," so the architect who charges a first-rate price for a second-rate service is a "grafter". His professional colleagues have established a generate of remuneration, on the basis of a certain standard of work, and the architect who accepts the fee but cheapens the work is the worst possible enemy of American architectural improvement and the dignity of the American architectural profession. With every increase in fees the duty of keeping up the quality of the work and of frowning upon unscrupulous inferiority becomes more and more urgent.

We imagine, however, that the architect who charges a first-rate price for a second or third-rate service will be found out sooner under a higher than under a lower standard of professional remuneration. Such an architect could, of course, make more money out of a six per cent. than out of a five per cent. fee; but he would be less likely to get away with it. People who propose to build houses and who are confronted by an unusually large scale of professional charges, will be prone to exercise unusual care in the selection of their architects. An increased scale of charge is, as we have said, a challenge to the architect's clientele to get along without them. Of course the client cannot get along without them; but he will have an additional interest in getting along without those who are not worth their hire. He will be more likely to inquire more carefully into the work and standing of any architect whom he employs; and while he may still be deceived, he will more likely discriminate between the first-rate and the second-rate man than he has been doing. By far the most important act taken by a man proposing to build a house, is the act of choosing his architect; and any influence which stimulates him to spend more time and care in making the choice will constitute the best of all architectural leavens. Such will be the effect of the increased minimum rate of compensation. It will make competition more severe because it will make the average client more exacting in his choice of an architect; but a competition which turns exclusively upon the quality of the competitor's

work is the one kind of competition which is an unqualified benefit.

To this extent, consequently, the increase in the minimum charge is something more than an indication that American architecture is worth more than it formerly was. In the long run it will have the effect of increasing still further the value and improving the quality of American architecture, because it will sharpen the desire of the house builder to secure the services of a really good architect. Of course, this influence will be effective only within certain limits. Just in so far as inferior, if well-intentioned designers, are allowed to obtain the same standing as men who are competent to do thoroughly good work, just to that extent will the increased minimum rate fail to have any leavening influence. The ordinary house builder is rarely able to discriminate between a first-rate and second-rate designer. If his desire is sharpened to secure the services of a really good architect, that would mean simply that he would be more careful to select an architect with a thoroughly good reputation, and in so far as architects with a good reputation are capable of inferior work, the well-intentioned builder might draw a blank for all his pains. But the remedy for this danger is lodged in the keeping of the architects themselves. In the long run they are the makers of one another's reputations. Whenever a second-rate man gets a first-rate reputation the fault usually lies with the general professional standards of the architects resident in that vicinity. If architects themselves do not discriminate properly between first-rate and second-rate work, they can hardly blame their clients for failing to make a discriminating selection. It all comes back in the long run to the effective professional standard, and the better men in the profession should realize that the higher rate of remuneration increases their responsibility from every point of view. They are not only more than ever responsible for doing their own very best work, but they are more than ever responsible for distinguishing sharply between the first-rate and the second-rate work of their professional colleagues.



Buffalo, N. Y.

THE PRUDENTIAL (GUARANTY) BUILDING.

Louis H. Sullivan, Architect.



# Architecture in the United States

## III.

### The Skyscraper

The various activities noted in the previous articles prove our competence to build, and our desire to build well and beautifully; but however true it may be that the desire for a thing is a necessary condition precedent to its attainment, the desire for fine architecture is impotent when unaccompanied by a certain kind of effort, of taste, of judgment, I may even add of manner of life and mode of feeling. As yet we do not seem to have sufficiently developed that right kind of effort, of taste, of judgment, nor to have learned to live and to feel in just the manner necessary to produce an indigenous architectural art eloquent of our highest intellectual and moral sensibility.

The skyscraper, the only indigenous architectural product to which we can lay claim, is eloquent only of the power of the purse and of the higher turn for business. In it the idea of profit everywhere triumphs over the idea of perfection. The last word of these tall buildings is anything but their address to our sense of formal beauty. As Henry James says, "The attempt to take the aesthetic view is invariably blighted, sooner or later, by their most salient characteristic, *the* feature that speaks loudest for the economic idea. Window upon window, at any cost, is a condition never to be reconciled with any grace of building, and the logic of the matter here happens to be on a particularly fatal front. If quiet interspaces, always half the architectural battle, exist no more in such a structural scheme than quiet tones, blest breathing spaces occur, for the most part, in New York conversation, so the reason is, demonstrably, that the building can't afford them. The building can only afford lights, each light having a superlative value as an aid to the transaction of business and the conclusion of sharp bargains." In these terms Mr. James

registers his final impression: "Such growths, you feel, have confessedly arisen but to be 'picked' in time, with a shears,—nipped short off, by waiting fate, as soon as 'science' applied to gain, has put upon the table, from far up its sleeve, some more winning card. Crowded not only with no history and consecrated by no uses save the commercial at any cost, they are simply the most piercing notes in that concert of the expensively provisional into which your supreme sense of New York resolves itself. They never begin to speak to you, in the manner of the builded majesties of the world as we have heretofore known such,—tower or temples or fortresses or palaces,—with the authority of things of permanence, or even of things of long duration. One story is good only till another is told, and skyscrapers are the last word of economic ingenuity only till another word be written."

In very truth these "mercenary monsters" are already menaced through sheer magnitude and multiplication, like some race of giant dinosaurs, threatened with extinction by reason of a productivity in excess of the earth's power to provide them with sustenance. The rentable value, which is the life blood of these tall office buildings, subsisting, as they do, on the light, the air the sufferance of their undeveloped or underdeveloped neighbors, suffers diminishment in proportion to the extent that these neighbors themselves climb skyward and claim their own.

Already in the business districts of New York and Chicago, there are solid blocks of sky-scrapers, and if the building of one of them continues unrestricted the lower stories will become (as many of them are to-day), mere cellars, and the streets deep cañons, dark at noon-day, the play-ground of germ-laden winds. "These leagues of build-



5th Avenue, New York.

GORHAM BUILDING.

McKim, Mead &amp; White, Architects.

ings, describable and indescribable, are not beautiful but sinister. One feels depressed by the mere sensation of the enormous life which created them—life without sympathy; of their prodigious manifestation of power—power without

pity. They are the architectural utterance of the new industrial age."

And over all broods the horror of a great impending catastrophe,—a menace no less real for being unrealized. By reason of the massing of tall buildings

on narrow streets, some day a devastating fire will leap from sky-scraper to sky-scraper, hundreds of feet above the heads of the horror-stricken spectators.

Board of Fire Underwriters at a recent meeting of a commission on the limitation of the areas and heights of buildings appointed by the Building Codes



RAILWAY EXCHANGE BUILDING.

Chicago, Ill.

D. H. Burnham &amp; Co., Architects.

Such a disaster is not only possible, but inevitable. It is a matter of time and circumstance alone,—this springing of the great granite and iron trap. Mr. Babb, the president of the New York

Revision Committee of the New York Board of Aldermen, is quoted as having said:

"With our present unlimited height of buildings in the financial centre,

where the streets are being converted into narrow cañons by the walls of thirty and forty storied buildings, we are courting a disaster that would outdistance that of any other great fire in the country. The San Francisco fire has taught that so-called fireproof buildings cannot withstand the attacks of an uncontrolled wave of flame. How much more dangerous would a fire be when it was sweeping through the top levels of our lines of lofty buildings. Experience has taught that a high building of great area nurses the hottest fires. It is not only not beyond the range of possibility, but the underwriters fear that there is a very strong probability of a fire starting in the nest of skyscrapers and beating across streets from the windows on the top floors to other buildings. All systems of sprinklers and all attempts at fireproofing would not avail in the least in an instance of this kind. The firemen away down below could do nothing. The fire would gain such headway that when the edge of the skyscraper zone was reached, there would be a blaze of such proportions as to imperil the whole city." This is not the scare of a yellow journal, but the mature judgment of an expert. Moreover, engineers have estimated that in case of a sudden shock or other unforeseen incident, calculated to terrify the tenants of the lofty buildings, the narrow streets of the financial district would not be large enough to accommodate the swarm of people from these many-storied hives.

The only safeguard against such catastrophes lies, of course, in restrictive legislation, either by the direct curtailment of skyscrapers, to a certain limit of dimension, or by a system of taxation calculated to discourage upward extension. One suggestion is that a builder might be allowed to occupy with his structure a fixed percentage of cubic space, found by multiplying the dimension of his lot by a fixed standard of height. This would make a limit of bulk rather than of height. The best solution, both from a practical and an aesthetic standpoint, might consist in proportioning the height of buildings to

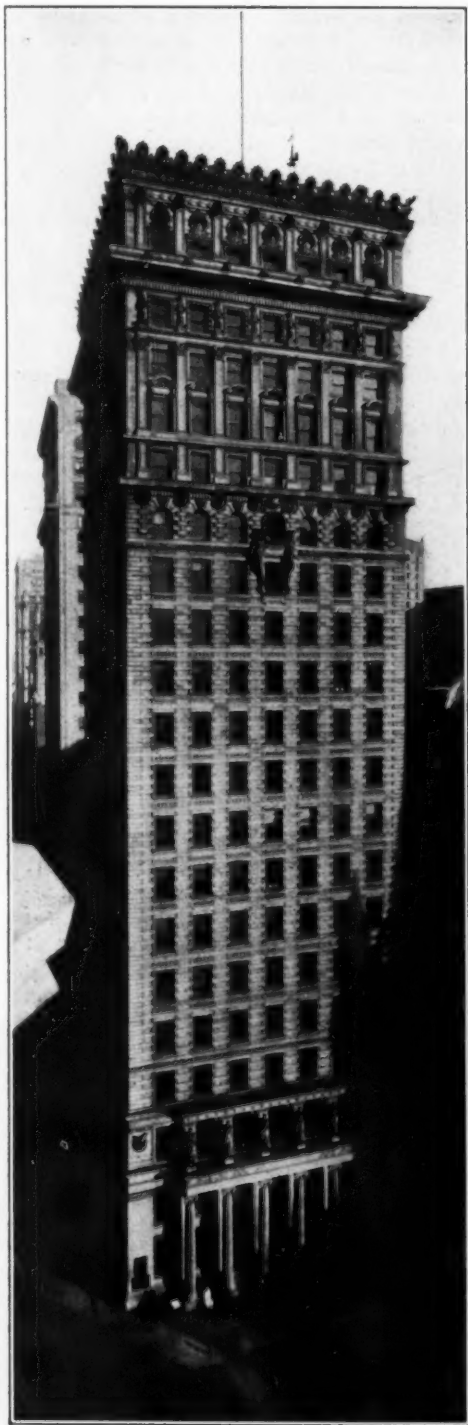
the breadth of the interval separating them, permitting skyscrapers, say, only on opposite sides of every alternate street. The effect of a broad avenue, lined by buildings of moderate height, behind and beyond which, on opposite sides of parallel streets rise tiers of tall buildings, facing one another across the wide interval, thus formed between them, besides affording an abundance of light and air, both to the buildings and to the streets, might strike a new and impressive note in the concert of municipal art.

However much our newly acquired power to build with safety to almost any imaginable height is being or may be abused, the growth of cities, the concentration of business within narrow areas, and the consequent high price of land in such areas, insures perpetuity, within certain limits, to the type of building made possible by the development of the skeleton frame, and the invention of the elevator. This being so, it is for us to face the problem of the skyscraper squarely, seeking to discover and develop its latent aesthetic potentialities. The more conviction, enthusiasm,—love, even—we can bring to the task, the better will the result be. The architect who essays the problem without interest and without sympathy, is foredoomed to failure, and it may be that the consciousness of the "finite—the menaced, the essentially invented state" which Mr. James purports to have detected in "the thousand glassy eyes of these giants of the mere market," was only a reflected gleam from the mercenary and unimaginative minds of the architectural Frankensteins responsible for these monsters.

Mr. James had reference to the skyscrapers of New York. In Chicago, as before explained, the problem has been approached in better faith, with more sincerity and directness. From the tall buildings of that city, Mr. Paul Bourget, an equally competent observer—more competent, in so far as he is more sympathetic—received a very different impression. He says of them:

"The simple force of need is such a principle of beauty, and these buildings





AMERICAN SURETY COMPANY.  
Broadway, New York. Bruce Price, Architect.



BROADWAY-CHAMBERS.  
Broadway and Chambers Street, New York.  
Cass Gilbert, Architect.

so conspicuously manifest that need, that in contemplating them you experience a singular emotion. The sketch appears here of a new kind of art, an art of democracy, made by the crowd and for the crowd, an art of science in which the certainty of natural laws gives to audacities in appearance the most unbridled, the tranquillity of geometrical figures."

"The simple force of need is such a principle of beauty." Here, at last, is the particular peg for which we have been looking on which to hang the case for the defendant. These many storied temples to Mammon, whether one thinks them beautiful, as does Mr. Bourget, or, merely revolting, like Mr. James, are the supreme manifestation of our need and our power to build,—to build on a gigantic scale, and in an unprecedented manner; and that, say what one may, is architecture—architecture rampant it may be, but at all events alive. Our churches, universities and libraries, our capitols and court houses—what are they for the most part but insincere archaeological experiments or cut-to-measure confections from European fashion-plates? They involve no unprecedented constructive problems, and contain no potentialities of new beauty. The sky-scraper, on the other hand, does both. It affords, for that reason, a magnificent opportunity, and the fact that it has been, for the most part, an opportunity unimproved, reflects less heavily upon the sky-scraper than upon the architect thereof. Here is a Dark Tower, hedged about with difficulties, and dangers, awaiting its Childe Roland. The imagination of Mr. Sullivan first, and almost alone, has reached up and caught at the possibilities and meaning which are enshrined in those huge office structures, and this, rather than his original and intricate ornamentation, constitutes his chief claim to greatness. As Mr. Caffin says: "To him they are not merely buildings to be deprecated for their negation of all that has been held beautiful in the architecture of the past. They are, or may be made, vital embodiments of the colossal energy and aspiring enterprise of American life.

The fact that this piling of story upon story has its origin in the commercial necessities of real estate and in the congestion of population within certain limited areas, does not prevent him from seeing the spiritual possibilities which lurk, undreamed of by most people, in this inert mass of brutal materialism."

The aesthetic problem presented by the tall office building Mr. Sullivan conceives to be "one of the most stupendous, one of the most magnificent opportunities that the Lord of Nature in his beneficence has ever offered to the proud spirit of man." His greatest successes have been in the field of this variety of commercial architecture. The limiting conditions which others accept perforce and compromise with as much as they dare in order the better to conform with traditional ideas of architectural beauty, he accepts willingly, even eagerly, achieving his best effects not in spite of the imposed limitations, but by means of them.

In order to understand the quality and the degree of Mr. Sullivan's success in this field, the conditions governing the problem of the modern office building must be briefly stated. In its last analysis it is a hive, a system of cells,—hundreds of similar rooms side by side and superimposed, equally desirable (so far as possible), and equally well lighted. It must be lofty, because while its horizontal dimensions are limited by the size of the lot, and the size of the lot by the cost of land, its vertical height is limited only by its stability, and the stability of one of these steel frame buildings is enormous, for it is, in effect, a truss planted upright in the earth. This steel framework must be protected from the corroding action of the elements, and especially from fire, which destroys it. The building must have natural light in every part, and (usually) great display windows in the first story.

Let me illustrate now, by means of a typical example, in what manner Mr. Sullivan has translated this thing of utility into a work of architectural art. The Guaranty Building, in Buffalo, affords a good illustration of his method. "What," he demands, "is the chief char-



THE NEW YORK TIMES BUILDING.  
Times Square, New York.  
C. L. W. Eldlitz, Architect.



WEST STREET BUILDING.  
West Street, New York.      Cass Gilbert, Architect.

acteristic of the tall office building? It is lofty. This loftiness is to the artist-nature its thrilling aspect. It must be tall. The force of altitude must be in it. It must be every inch a proud and soaring thing, rising in sheer exultation, that from bottom to top it is a unit without a dissenting line." And he has therefore enhanced the height by artfully emphasizing the vertical dimension, so that when seen in sharp perspective the windows lose themselves behind the piers and the eye is carried irresistibly upward to the beautiful coved cornice which crowns the structure.

"The shape, form, outward expression of the tall office building should, in the very nature of things, follow the function of the building, and when the function does not change the form is not to change." The first two stories, which may be called the "mercantile stories," serve a different purpose from the rest, and so they are treated differently; but above them all of the windows are of the same size and are spaced equally far apart, because they light offices of the same size and equally desirable. This best thing practically, has been made by the skill of the designer the best thing æsthetically, for there is a kind of beauty which comes from the repetition of a few well-chosen motives, and, moreover, the building appears what it is—a hive for human bees.

"The materials of a building are but the elements of earth removed from the matrix of Nature, and reorganized and reshaped by force—by force mechanical, muscular, mental, emotional, moral and spiritual." The exterior of the building is all of terra cotta, of a salmon-red color, and every square foot, almost every square inch, of this vast surface is "reshaped by force," with beautiful ornament, fine as lace and strong as steel, infinitely various and original. By reason of its flatness and its delicacy, though it charms the eye, it nowhere assumes a prominence sufficient to detract from the simplicity and dignity of the architectural composition. Moreover, the ornament is of a kind exactly suited to the

plastic nature of fire-clay; it is clear at a glance that it was modeled, not carved, and the subdivisions of the pattern have been considered in relation to the joints, so that these are nowhere too apparent.

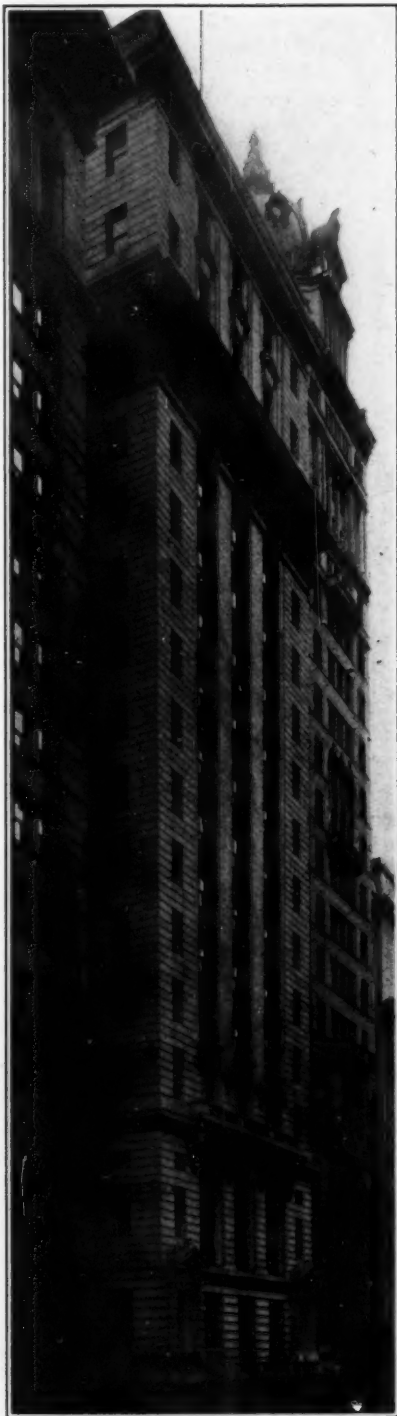
The building is rich in those little felicities which reveal the artist. For example, the strength of the angular corner is emphasized by treating it in the form of a bead rising sheer from base to summit, and this slender, stem-like member flowers out at its far, topmost extremity, into an exquisite foliation, which seems to cling to and lap over the edge of the main cornice, mitigating its geometric severity of line. Even the dirtiness of the atmosphere has been made to serve æsthetic ends, for the terra cotta ornament is of such a nature that particles of dust or soot, lodging in the interstices, bring the pattern into relief, and the building thus grows more beautiful instead of uglier with the lapse of years. Mr. Sullivan has solved the difficult problem of the show window very cleverly. By placing the glass well to the front of the flanking piers he has rendered unto the Cæsar of Trade the things which are that Cæsar's; but, mindful of the claims of art, he has recessed the glass at the transom level, so as to leave revealed beautifully ornamental terra cotta soffits and jambs, together with the caps and the upper portions of the columns, which, visible through the show window, rise boldly through a shallow roof of glass. He attains by these means an effect of solidity usually arrived at by deeply recessing the windows and reducing the glass area in the place of all places where the need for space and light is most imperative.

Of the Guaranty Building, Mr. Montgomery Schuyler says: "I know of no steel-framed building in which metallic construction is more palpably felt through the envelope of baked clay." Though it represents perhaps the highest logical and æsthetic development of the steel-frame office building, it is scarcely deserving, in the light of recent developments, of the name of skyscraper. It is an insignificant pile of twelve stories, and any building un-





FULLER (FLATIRON) BUILDING.  
Broadway and 5th Avenue, New York.  
D. H. Burnham & Co., Architects.



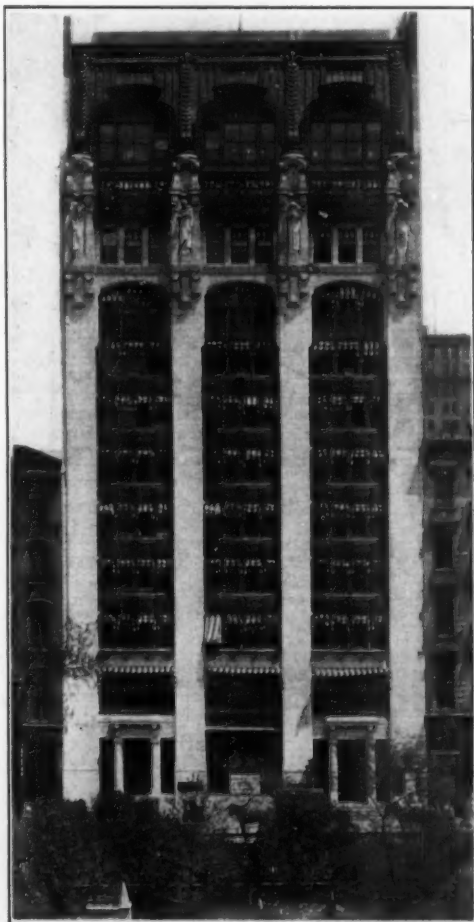
BLAIR BUILDING.  
Broad Street, New York.  
Carrère & Hastings, Architects.

der twenty can no longer rightfully lay claim to that title. The new Singer Building tower, and the Metropolitan Life Building rear their proud heads to the height of more than forty stories, affording a glimpse of that unknown and rather terrible generation which is to follow us, unless, as I have already intimated, we read and heed the handwriting on the wall, and curb—before it is too late—this menacing, this mercenary madness.

Although the New York architects have not succeeded in combining, with Mr. Sullivan's success, stern logic in the matter of form, with originality and grace in the matter of ornament, it would be an injustice to deny them the honor of having made substantial contributions towards the æsthetic problem involved in the skyscraper. They have approached that problem more in the Classic than in the Gothic spirit, demanding, in the name of the Classic tradition, a threefold vertical subdivision—a beginning, a middle, and an end—unrelated (or only accidentally related) to any analogous differentiation in the plan. Something they must have corresponding to stylobate, column and entablature—base, shaft and capital. The late Mr. Bruce Price was, I believe, the first to formulate this into a principle for the tall building, and he applied it with notable success in his American Surety Building, a gigantic pilaster, which has its base, its many windowed, fluted shaft, and its intricately ornamented capital. The success of this essay imposed this principle, and the best of the lately built skyscrapers of New York are for the most part so many embodiments and variants of it. Of these, Mr. McKim's Gorham Building seems to me the most altogether felicitous, perhaps owing to its more manageable proportions. The eye dwells delightedly on its warm grayness, its delicate reliefs, even upon its far-spreading fretted and gilded cornice, though the mind, unseduced by beauty, whispers that this feature helps to shut from the low-lying street and avenue the antiseptic sun.

Messrs. Carrère & Hastings' Blair

Building, if not quite the tallest, is yet the finest flower which has sprung skyward out of the *Beaux Arts* hotbed. If the so various fruits of this particular training were of a corresponding excellence the value of that training could scarcely be the subject of debate that it

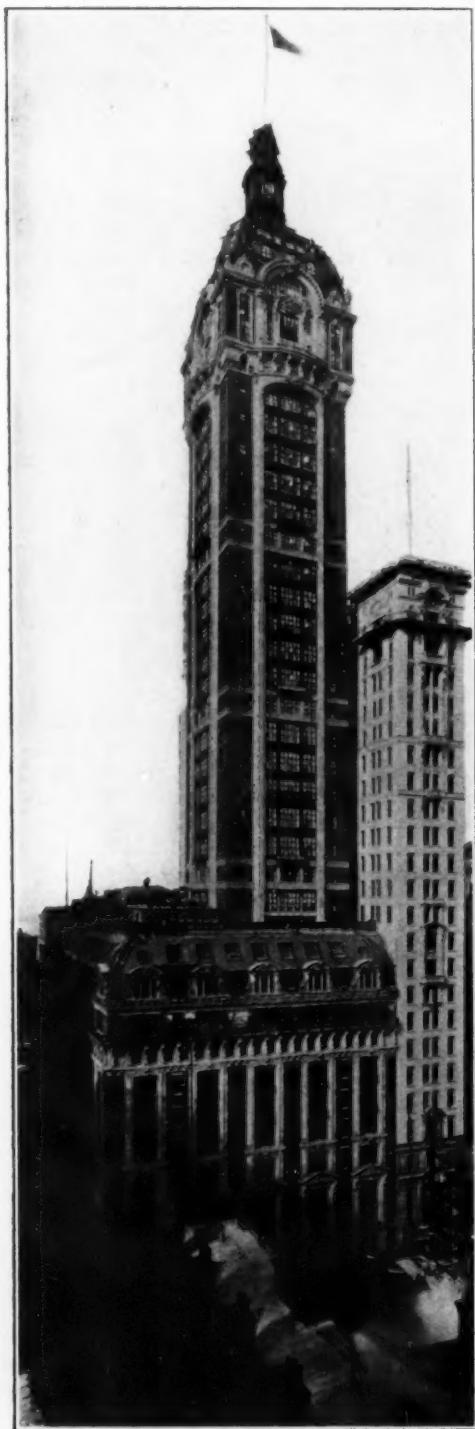


THE EVENING POST.

New York.

Robt. D. Kohn, Architect.

is now, for here is living evidence of a mind emancipated by it and not enslaved. The façade is a happy blending of audacity in the matter of composition, and restraint in the matter of detail, and the materials are combined with the finest sense of their several qualities. If



SINGER BUILDING AND TOWER.  
Broadway, New York. Ernest Flagg, Architect.



METROPOLITAN LIFE INSURANCE COM-  
PANY'S BUILDING.  
Madison Square, New York. N. Le Brun & Sons, Architects.

Mr. Sullivan—that militant Goth—had not armed the critical sense with his Excalibur of a formula that form should (everywhere and in all things) follow function, that sense might be tempted to capitulate in the presence of so much excellence, without further ado.

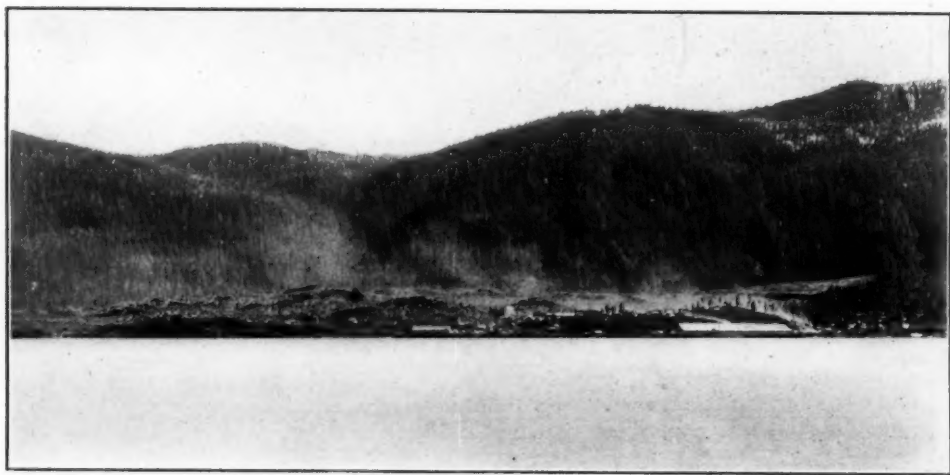
The promise foreshadowed in Mr. Gilbert's Broadway Chambers of a new Richmond in the architectural field has been amply fulfilled in that architect's West Street Building. The temptation is to render this rather more than justice, so favored is it by its detached, its almost isolated state—its background of city and sky against which to display its shapeliness; its foreground of the river and the roaring waterside—eliminating the foreshortened perspective and the painfully bent neck. Discounting all this, however, in mass, in outline, in color, in detail, the building is the work of a master mind, the last word in New York skyscraper architecture; in it, the Caliban has become—if not yet Ariel—human, at all events.

The peculiar genius of any given race or any given period incarnates, as it were, in some architectural construction characteristic, and therefore symbolical of it. The iron hand of Roman sovereignty encased within the silken glove of Roman luxury, found its prototype in buildings which were stupendous, crude, brute masses of brick and concrete, encased in coverings of rich marbles and mosaics. The "sad sincerity" of soul,

the aspiring mysticism of the Middle Ages, found embodiment in the Gothic cathedral, a thing so delicately adjusted, so almost perilously poised, thrust against counterthrust, that like the overstrained organism of an ascetic it seems ever about to overcome that centripetal force which is nevertheless the law of its being. The arrogant and artificial life of the court of Louis IV. stands as truly imaged in the palace and garden of Versailles as in the wig, the coat, the scepter, and the high-heeled shoes of that monarch, used by Thackeray to symbolize his state. In like manner, the tall office building, our most characteristic architectural product, is a symbol of our commercial civilization. Its steel framework, strong, yet economical of metal, held together at all points by thousands of little rivets, finds a parallel in our highly developed industrial and economic system, maintained by the labor of thousands of obscure and commonplace individuals, each one a rivet in the social structure. And just as this steel framework is encased in a shell of masonry, bedecked, for the most part, with the architectural imaginings of alien peoples, meaninglessly employed, so are we still encumbered by a mass of religious, political, and social ideas and ideals, which, if we but knew it, impede our free development and interfere with the frank expression of our essential nature.

*Claude Bragdon.*





PRINCE RUPERT FROM THE HARBOR.

## The Future Prince Rupert as Conceived by the Landscape Architects

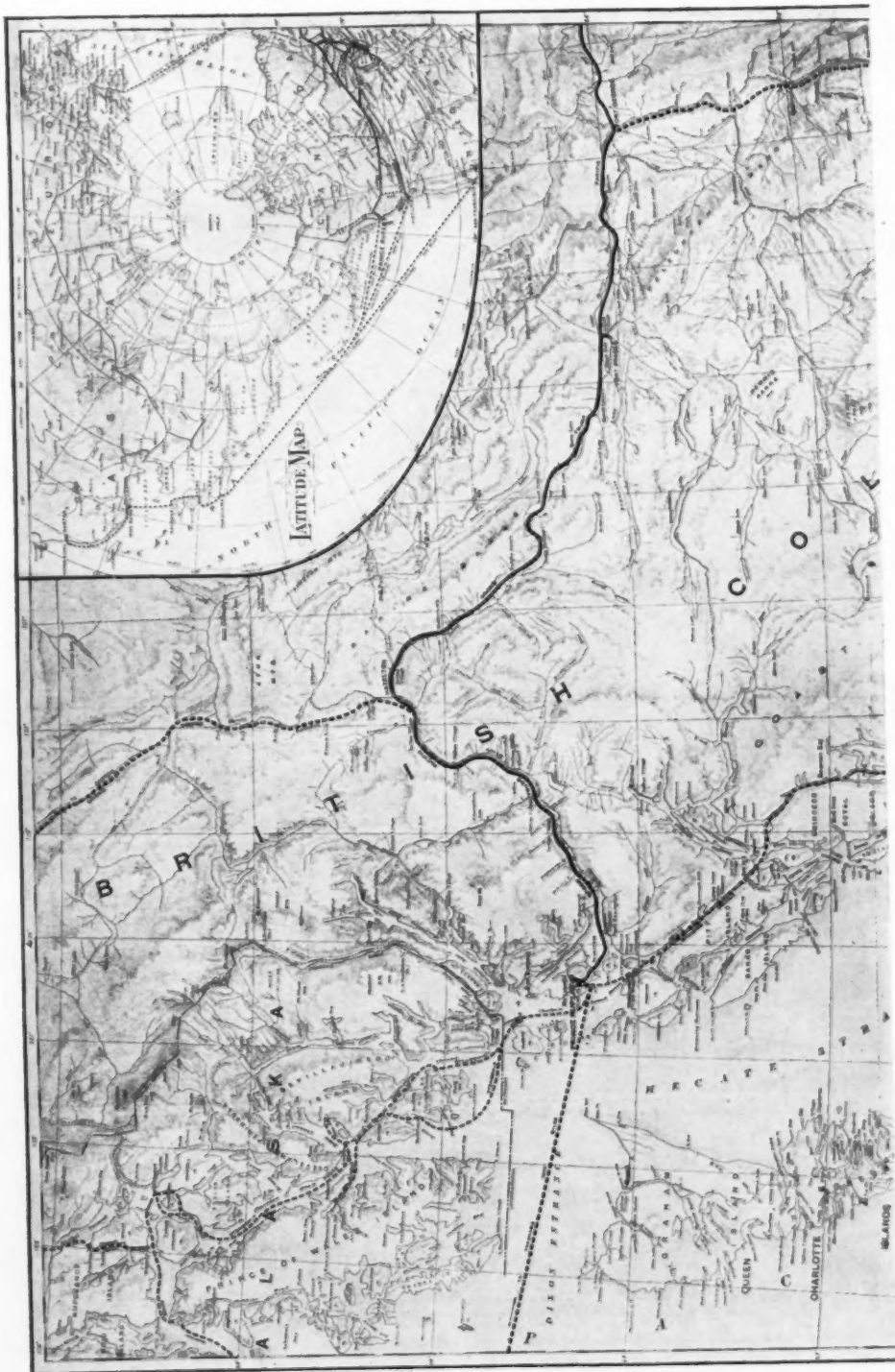
Even to those who have kept in touch with the rapid development of the northwest, and are familiar with the mushroom birth of western towns, as well as the phenomenal growth of Seattle and Vancouver, for a city to suddenly spring into being, from what was three years ago a glorious wilderness, is, to say the least, remarkable; and yet this is what will take place on Kaien Island, British Columbia, before the close of the present year.

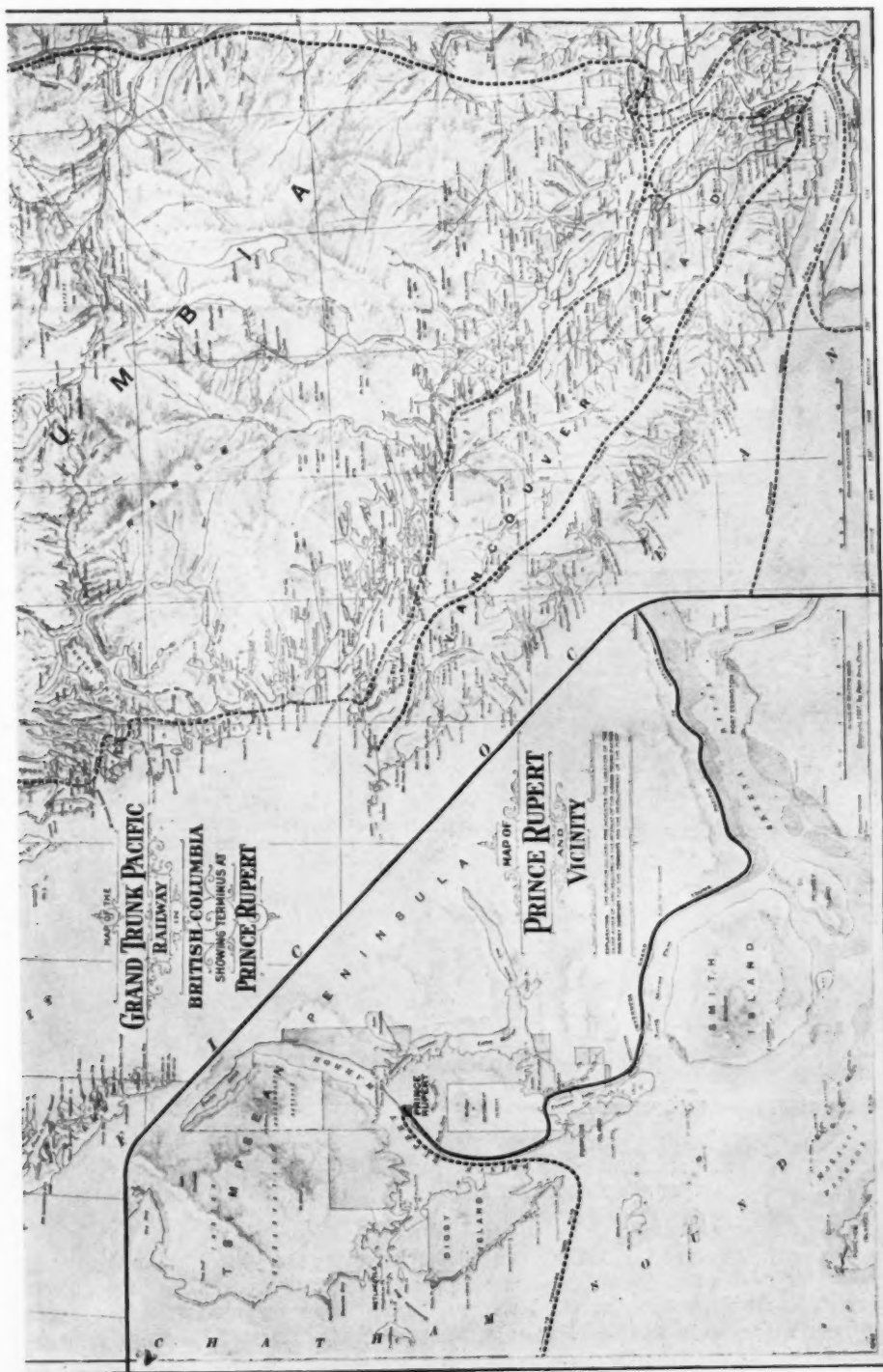
This city will be called Prince Rupert. The expression "Terminal City to a great Transcontinental Railway" is of itself a limelight thrown on the proposition, and when it is realized that this railway has been most carefully conceived, is being most substantially built with the hearty cooperation of the Dominion Government and with the assistance of their credit, because of their desire to open up the vast resources of Canada, and is now rapidly pushing westward as well as eastward with a remarkable growth of population along its route, there is small wonder that even before the rail is continu-

ous, Prince Rupert, the terminus, will be a sizeable city.

It is not the purpose of this article to discuss the low rate of grade which will put the Grand Trunk Pacific Railway in a class alone as an economical freight carrier, nor shall we more than state that it is estimated the trip from Liverpool to Yokohama via Prince Rupert will be almost 800 miles shorter than via New York and San Francisco; while the ocean trip from Prince Rupert to Yokohama is 400 miles shorter than from Vancouver, and 600 miles shorter than from San Francisco. The Grand Trunk Pacific through its terminus, Prince Rupert, will furnish the shortest and most direct land and water route to the Yukon and Alaska, that storehouse of mineral wealth. These factors are significant and speak plainly for the future success of Prince Rupert, which is so closely associated with the railroad in being the open door to the vast Canadian Northwest.

There are many other potent reasons for predicting a rapid growth of population and industry in and about Prince



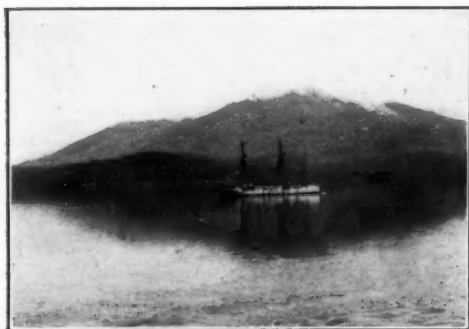


MAP OF THE UNITED STATES AND CANADA, SHOWING THE LOCATION OF PRINCE RUPERT AND THE RAILWAY ROUTE.

UOFM







Prince Rupert Harbor, Over a Mile Wide.  
Mount Morse in the Distance.

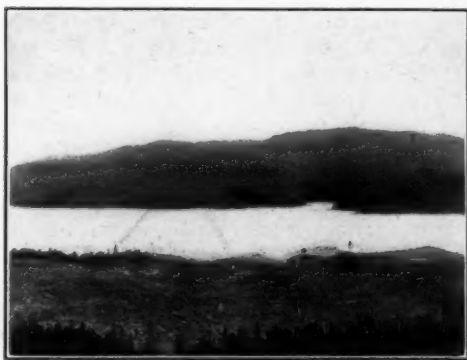
neries, are eagerly anticipating the completion of the railway when Prince Rupert will become the large distributing centre. A wealth in minerals and lumber lies as yet untouched in the neighboring mountains, and the fertility of the valleys and the prairies to the eastward cannot be doubted, and cry loudly for investigation and development.

Before discussing the plans for the development of Prince Rupert, a word should be said of the natural characteristics of the site. Located some five hundred and fifty miles north of Vancouver City, Kaien Island (upon which the city proper is to be built), has a climate so affected by the Japan Current as to make extremes in heat or cold very rare, ensuring to Prince Rupert an open harbor all the year round. While the rainfall is considerable along the Pacific Coast, Prince Rupert is said to be exceptionally free from fog—which, taken into consideration with the direct and wide entrance into a commodious and beautiful bay, encourages the prediction that Prince Rupert Harbor will be considered one of the finest in existence.

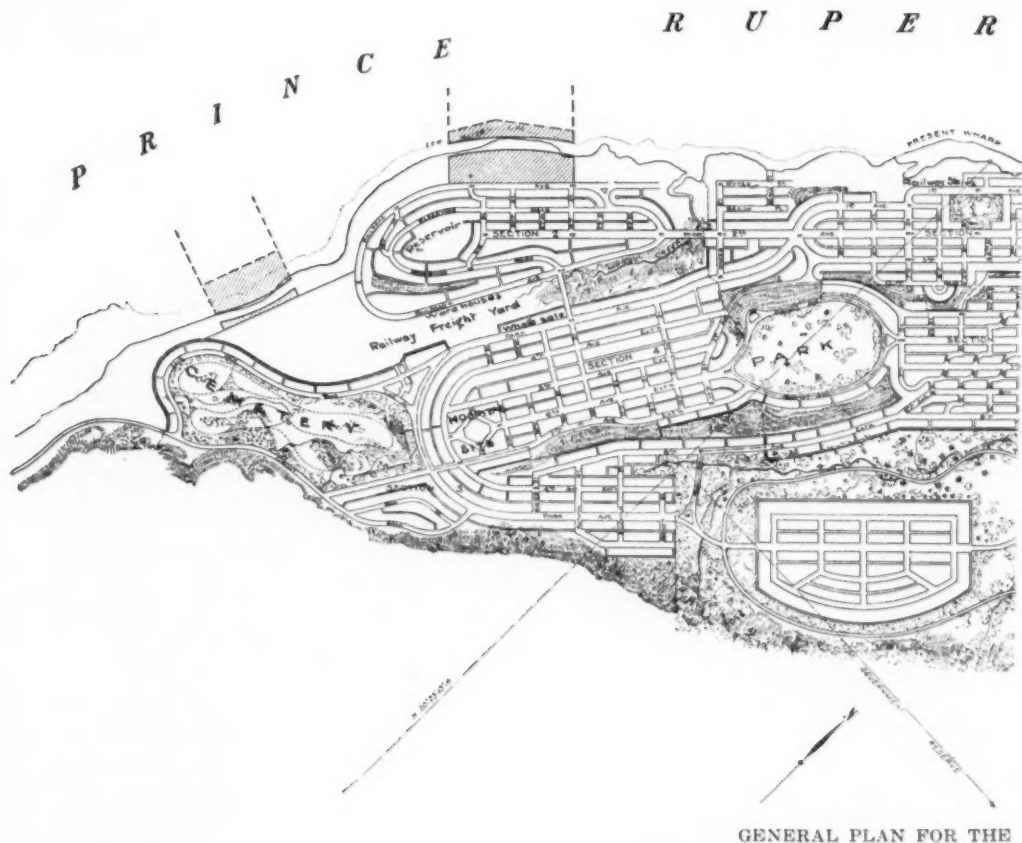
Kaien Island, roughly containing 28 square miles, rises boldly from the superb harbor, and capped by Mt. Hays, presents a site that is at once magnificent, inspiring, and yet adaptable for the growth of a large city. Mt. Hays, which occupies the central portion of the Island, is not available for townsite purposes, but will ever remain a nat-

ural park of great possibilities, giving to the city a picturesque background. No description that the writers could make would do justice to the complexity, the boldness and the grandeur of the outlook from the slopes of this mountain, 2,300 feet in height, but suffice it to say that no matter how obtrusive the works of man may be, the views over the harbor and adjoining lakes, cannot but remain, for all time, the revelation of a grand harmony of Nature in which island and lake, mountain and ocean, all play a part.

Seldom, if ever, has it fallen to the lot of landscape architects to plan for what is to become a great city with less restrictions at the start, or with better surveys upon which to base plans, than was accorded to Brett & Hall, of Boston, by the Grand Trunk Pacific Railway Company. The far-sightedness of this policy, and the genuine desire of the railway officials from President Hays down, to plan for a model city, capable of large expansion—free from the dangers of congestion to traffic—preserving for the future an opportunity for wise municipal improvements—indicating suitable sites for churches, schools, parks and cemetery—and locating railway yards and wharves so as best to serve the city, has promoted a sympathetic co-operation between the Railway Company and the Government of British Columbia, as joint owners, and the landscape architects, as designers.



The Clearing for the Townsite, Showing the Mainland Opposite.



GENERAL PLAN FOR THE

While over 5,000 acres on Kaien Island, practically all of Digby Island, and large areas on the mainland, are readily available for city development, Prince Rupert when incorporated will comprise only 2,000 acres as the townsite. Not only have the plans for the townsite been accepted, but the staking out has already been completed in view of the sale of lots in May.\* It should be mentioned in this connection that \$200,000 is being expended in laying plank roadways and sidewalks, and in constructing sewers and a water supply which will accommodate a population of over ten thousand.

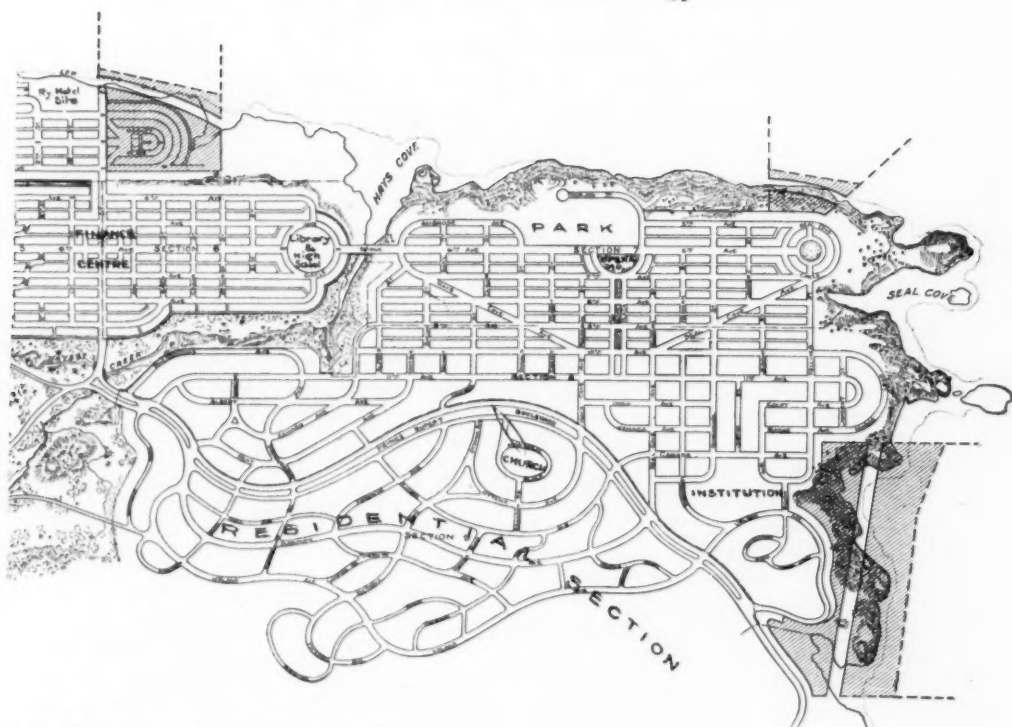
A general plan for the whole of Kaien Island is practically completed, but not until the city has settled down into districts of commerce, factory,

\*At this sale 2,000 lots offered were sold for approximately \$1,250,000, being less than one-fifth the area of the immediate townsite of 2,000 acres.

wholesale, retail, business and residential, will the full force of the design be fulfilled. Every effort has been made to foresee these future district developments, and to facilitate their growth and success, by planning streets of suitable size and grade, and by a subdivision of property into lots and alleys so as to serve best the purpose of each particular district.

During the years 1906 and 1907 a large engineering force, under the direction of James H. Bacon, Harbor Engineer of the Grand Trunk Pacific Railway, had been engaged in topographic and hydrographic surveys, so that when the landscape architects reached Prince Rupert in January, 1908, complete surveys were available. A considerable acreage of Kaien Island had been cleared of the heavy growth of spruce, hemlock and cedar, and other

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H A R B O R



DEVELOPMENT OF PRINCE RUPERT.

contracts for clearing were about to be let. At that time Prince Rupert possessed a sizeable storage warehouse. An inclined boardwalk extended back from the wharf, and facing this walk, upon which ran a dummy railway, were a series of frame buildings and tents—a curious mixture of houses, railway buildings, post office, general stores and a barber shop. An offshoot from the main walk led to “Knoxville,” a settlement of tents, of which the most conspicuous, due to a large sign reading “The Empire,” called attention to the fact that here was established Prince Rupert’s first newspaper.

The aspect of the cleared townsite was a waste of stumps, with here and there a great tree looking lonesome and detached, and reminding one of a silent sentinel surveying the destruc-

tion on all sides. The rugged character of the land, accentuated by the bristling stumps, was rather bewildering at first, and days were spent by the landscape architects in smoothing out the complex topography into a simplified series of planes, some level, some inclined, eliminating for the time being the irregularity of the surface.

It was discovered that the trend of the several planes, constituting what is to become the business section, were all either northeast or southwest; in other words, that the long axes of these separate planes were approximately parallel in direction. This disclosure was of far-reaching importance, for it indicated that the main streets of the several planes should be parallel, and subsequent study convinced the designers that not only would the busi-

ness section be best served by a rectangular system of blocks,—with considerable variation,—but that the construction of straight avenues—taken into consideration with the availability of the greatest amount of property for buildings—would be less costly than curving avenues.

To any one expecting to find a theoretic ideal city design in the plans of Prince Rupert there must be a disappointment, for the unusual characteristics of the site must convince one at a glance that no stereotyped or theoretic city plan would suit the conditions. The design, of necessity, had to be original and adaptable to the unusual topogra-



Prince Rupert a Year Ago, Showing the Railway Hotel in the Centre of the Picture.

phy, and yet in the opinion of the designers, the requirements for a large city are well met.

It had frequently been asked before the plans were published whether Prince Rupert was to conform to the gridiron, the wheel or the star idea—as typifying the sub-division into rectangular blocks; or into radiating and concentric streets; or into the separated civic centres with more or less geometric treatment of streets and blocks. Whatever one may think of the merits of each—and there is undoubtedly good in them all—the theory of any one of them should never be applied so as to sacrifice the individuality, or the adaptability, of the site. That the design must be suitable to the situation is essential to any well conceived

city plan, and plans are good or bad as they fulfill this great requirement.

The desire to make a show plan on paper, with enforced symmetry in design, has frequently led to great disappointment in result, and the practical landscape architect realizes fully that theory on paper must generally concede much to the vagaries of nature. It is fortunate that this is so, for otherwise there would be small call for originality in design, and the individuality of cities, which should be carefully preserved, would be lost. The ideal city plan is one that has appropriately developed all the practical advantages to traffic, has considered carefully the circumstances of business, homes and sanitation, has preserved splendid opportunities for the architect's skill, and, throughout it all has kept the characteristics of the situation.

It is indeed an unfortunate site, from the designer's point of view, when no natural picturesqueness exists to add a complexity and interest, which by a wise planning may be preserved and enhanced. A city on a level site is easy to lay out, but only the skilful designer will foresee the danger of a monotony in plan or an artificiality in design, either of which must be avoided.

To persist in applying the gridiron, in the face of excessive grades, is only too often seen, and while the aim to have a simple, straightforward arrangement in the business sections is commendable, there is every reason for establishing oblique short cut streets to meet the demands of traffic between those separate business centres which are not at right angles to each other, or to create a direct outlet to avoid congestion at these centres. The ideal oblique business street, in a rectangular sub-division, should attract through traffic only, as otherwise it might occupy too dominant a place in the scheme of city development. It is quite appropriate that an oblique street be designed as an axis street of great importance, but the effect of this in relation to the other streets should be carefully considered, for it should be re-



membered that a number of important radiating streets from any business centre, or centres, brings out the theory of the wheel or the star, and the force of parallel avenues is diminished. The objections to many radiating streets in a rectangular sub-division are the numerous acute angles at the corners, the irregularly shaped allotment, and the excessive area devoted to streets.

The wheel idea of city design, with avenues radiating from a common centre, and concentric streets at regular intervals, is splendid as a small motive when the topography suggests the practical advantages of this design, but, under ordinary circumstances, it is difficult to imagine this theory carried out in its entirety for a large city. Curving streets in limited numbers, especially when suggested by the topography, are to be gladly welcomed in any city design, for they have a certain charm and variety in sharp contrast to the greater dignity of the broad straight avenue, with its long perspective, or architectural vista.

The first great aim of the landscape architects in Prince Rupert was to decide on a skeleton system of fundamental roads, or arteries for traffic, so as to tie the whole development together by ensuring a commodious, as well as direct, intercommunication between the various sections of the town-site. These fundamental roads include the boulevard, the main crosstown streets, and those avenues in the business section which are of first importance and are to be 94 feet in width. Next of importance in the system of roads come the secondary avenues in the business section, which are to be 72 feet in width. Not only are the avenues in Prince Rupert destined to be eminently satisfactory as regards gradient for traffic, but the design aims to promote the dignity of all avenues, by having them comparatively broad, and by having blocks only two lots deep, with an alley between, so that all buildings will face primarily on the avenue rather than on a cross street. This intention of design—to add to the relative importance of avenues over side

streets—is furthered by having the average side streets only 56 feet wide—a width which the designers consider ample for streets not destined to become accumulative for through traffic. In this connection it should be noted that throughout the business section broad alleys—20 to 30 feet in width—are provided, in the expectation that delivery teams and express wagons shall be required to stand in the alleys rather than on the streets, thus eliminating the chief cause of congestion.\* Also it is hoped that water pipes, sewers, wires for telephone, telegraph and electric lighting—whether on poles or in conduits—be confined to the alleyways; thereby avoiding the periodic tearing up of thoroughfares, and for other practical as well as aesthetic reasons.

It is attributable to the generous spirit of the Railway and Government Officials, and to the hearty accord between them and the landscape architects, that Prince Rupert will acquire parks, squares, boulevards and the opportunities for municipal improvements, planned for in such a way as to fulfill the design in serving the public interest, and for the future embellishment of the city.

For the present these factors in the design will remain as reserves until such time as the future city can afford to develop them properly; but should the civic pride in Prince Rupert even approximate that of Seattle and Vancouver—which from appearances is more than likely—Prince Rupert will develop, in a very few years, into a beautiful as well as one of the most prosperous cities on the Pacific Coast. A more superb natural park than already exists on Hay's Creek could not be found, and when the Mountain shall some day be encircled by winding drives and footpaths, similar in devel-

\*The dangers and inconveniences of congested traffic, which, in many of our older cities with narrow streets, has called for special legislation causing certain crowded streets to become "one-way streets," could not affect Prince Rupert for many years to come, but this menace to a good city design has been carefully considered, and every precaution taken to insure a direct and commodious communication throughout the townsite for all time.

opment to Mount Royal, Montreal, no finer example of a wild scenic and recreation park could be imagined. Other park reservations, squares, play grounds and public building sites have been carefully considered, and so located as to enhance the effectiveness of main avenues, by giving definite terminal features, by planning for architectural factors at salient points along their course, and by providing for suitable civic centres or squares where important thoroughfares intersect.

While only a small part of what is to become eventually the *residential* section of Prince Rupert is to be included in the immediate townsite, the development of the whole section has been studied, and will present a very satisfactory grouping of homes. Not only is the lay of the land along the eastern side of Kaien Island—which has been selected to become the residential section—extremely attractive and picturesque, but the outlook upon Lakes Morse and Wainwright is superb. Prince Rupert Boulevard, taken in connection with Lake Avenue, will provide easy and agreeable communication between the residential and business sections of Prince Rupert, and these two will be the most important through streets in the residential section. The Boulevard, with park-like planting along its course will form a link in the circuit road around the island, a distance of some 20 miles.

As one compares the design of the business and residential sections of Prince Rupert, the rectangular arrangement of streets in the business and industrial sections, is in striking contrast with the curving alignment of the streets in the residential section.

In such undulating country as exists through the residential section, gently

curving streets are an economic necessity, and in the opinion of the designers, will give an added charm to the homes. The width of the streets in the residential section varies from corresponding streets in the business sections for several reasons, and especially because suitable reservations have been made to provide spaces for turf and trees along every street in the residential section. It is hoped that the building line in the residential districts may be kept so far back from the street line as to ensure a sizeable lawn in front, and perhaps a secondary row of trees to border the sidewalks. The great aim of the residential sub-division is to provide attractive lots for homes, and attractive streets to drive through, while the designers recommend the laying out of "private places" in which a limited number of residents may segregate around a central park-like plot, jointly owned by all, and may thereby acquire a suburban environment and privacy, along with the convenience of being close to the business centres.

While the foregoing account of early impressions, and the problem of planning for a large city in the midst of a beautiful wilderness, has been but lightly touched upon in this article, it is with the utmost confidence that the landscape architects predict a splendid future prosperity for Prince Rupert as a great terminal city, as a city blessed with manifold natural advantages and opportunities, and as a city so carefully conceived and nurtured in the beginning that a decade will see the seed of civic life give forth the blossoms of rapid growth and energy, followed by the fruits of permanent, wise and aesthetic municipal developments.

George D. Hall.

# The Residence of Mr. Geo. L. Rives

Carrère & Hastings, Architects

The establishment of certain conventional types of design for different classes of building is a necessary condition of American architectural improvement, and a great advance has been made in this respect during the past ten years. But in no class of building has an advance in this respect been slower than in that of the urban dwelling, while at the same time the establishment of an appropriate type is peculiarly desirable in this particular class. In the case of the country residence conditions special to each individual job, must necessarily modify profoundly the use of any convention, however excellent in itself, whereas the conditions determining the design of a city house vary within very much narrower limits. They are all built as the slice or the fragment of a block, and they are all so much the victim of their immediate neighbors, that the attempt to express in the façade any considerable degree of individuality and originality is necessarily vain. They are all about the same height, and they are all extremely restricted in the matter of plan. They do not impose themselves upon the observer as does a skyscraper or a building occupying the whole frontage of a block. Their general standing is precisely similar to that of a man in a crowd; and when a man finds himself in a crowd it is the part of good manners to dress and behave according to certain accepted conventions. His only justifiable opportunity for individual expression consists in stamping these accepted forms with a peculiarly distinguished note.

In spite, however, of the fact that conventions in domestic street architecture are or should be as much a part of good manners as conventions in dress, the city house front has lately been considered by architects and their clients chiefly as an opportunity for the

display of their individuality. Of late years, in New York City many hundreds of the old brown-stone houses have been torn down by owners who were not satisfied either with the appearance or the plan of this time-honored type of dwelling, and the residences which have replaced them have been designed apparently with the express purpose of avoiding any possible similarity of appearance. They differ one from another in every conceivable way, except perhaps in the fact of the abandonment of the old stoops. Jacobean or Tudor fronts fight for elbow room with colonial, Italian or modern French designs. The consequence is that after a whole block front has been reconstructed, and a row of these new façades have been placed side by side, the total effect is on the whole less seemly than that of the better examples of an old row of monotonous brown-stone houses. Each of the newer buildings may possess certain considerable individual merits, but in their relation one to another and in their total effect they are utterly unimpressive and tiresome. In spite of the considerable and continuous substitution of new for old houses in the fashionable residential district of New York, nothing remotely resembling an acceptable convention has as yet emerged.

Such being the general condition of this department of residential design, the critic naturally feels disposed to welcome with the utmost cordiality, any house, which would serve admirably as the beginning of an acceptable convention. The dwelling, illustrated herewith, which Messrs. Carrère & Hastings have designed for Mr. George L. Rives possesses most assuredly the sort of façade which is worthy of being imitated, and which if reproduced with variations in many other examples would constitute a peculiarly acceptable convention. It would combine, as do all really accept-

able conventions, a particularly appropriate material and form with abundant opportunities for individual refinement and distinction of treatment.

The material selected is, we believe, the best available in New York City for a private residence. There can be no doubt that for a house on a city street, a good stone is to be preferred to brick. Well laid, well pointed, and well made bricks can be wrought undoubtedly with a most attractive house-front, but they are more appropriate to a detached house than they are to one, which is merely the slice of a block. The undetached brick residence is lacking in a desirable solidity and dignity of appearance. It lends itself easily to a trivial and spotty treatment. The undetached brick house may, in fact, be compared to a man who wears a loose sack suit to a social gathering in the afternoon, at which a black frock coat would be much more appropriate. The grey sack suit is in itself a less pretentious garment than the frock coat, but it is a more conspicuous garment in a crowd because it is less formal and conventional. On the other hand its ways of differing from its associates are after all somewhat insignificant. The stone building has a much better chance of conducting itself in public as if it were only one among a group of equals, and as if it owed something to its neighbors.

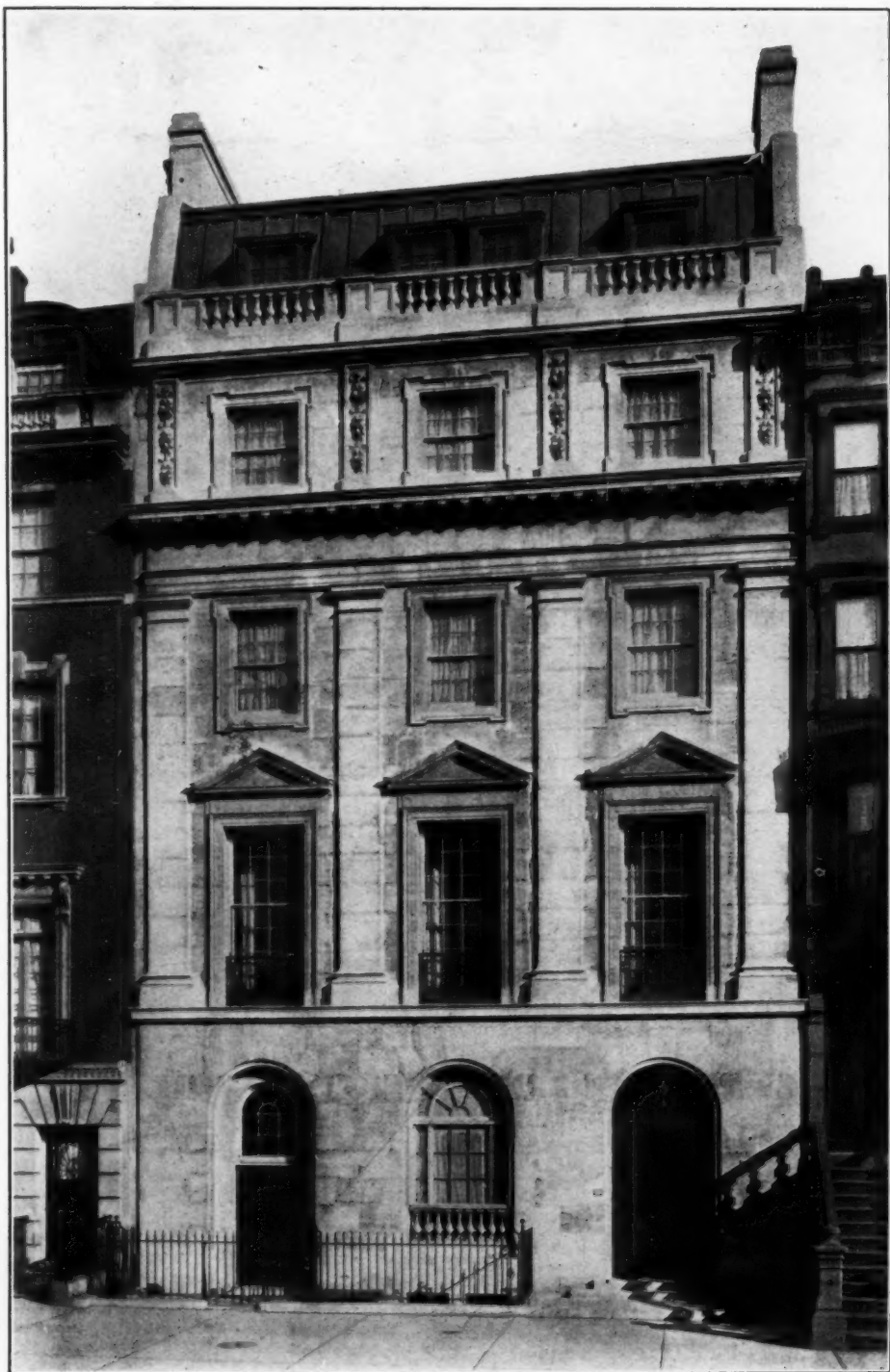
Not only, however, is the Rives house acceptable partly because its façade is built of stone, but the stone used is the best one available for a New York residence. It is a warm grey in color, and very pleasant in texture, so that it avoids the cold and partly repellent characteristics of the stones, which, until recently were more frequently used for metropolitan house fronts. It has certain qualities corresponding to the admirable French *caen* stone, and its increasing appearance on New York residential streets is a matter for congratulation. One can hardly indulge in the hope that it will come into general use, because certain other materials are cheaper; but there can be no doubt of the superiority from every aesthetic point of view over its competitors, and so far as possible its use should be im-

posed upon architects and owners by the authority of a convention.

In its general character the design of the façade also affords a desirable model for imitation in similar buildings. The triple division of a five-story façade, with the central member, consisting of the second and third story tied together by pilasters, dates from French examples of the end of the 18th century; and these French examples have a good claim to be considered as the source of the most appropriate conventions for domestic street architecture. The façades of the old buildings on the *Place Vendôme* in Paris, have simplicity without attenuation, and dignity without pretension. At the same time the design of each individual house has no meaning or propriety except in relation to its neighbors. Modern French architects have sought sedulously to improve on this early model, but it may be doubted whether their improvements have been worth the ingenuity expended upon them. The houses on the *Place Vendôme* are wholly admirable types of a gentleman's city residence, and Messrs. Carrère & Hastings have shown their usual good sense in adapting the design to the conditions of a contemporary private residence in New York.

Some exceptions may, perhaps, be taken as to the management of the design in this particular instance. The disadvantage with any columnar or "pilastered" treatment of the central division of a façade is that it increases the difficulty of giving the ground floor and particularly the entrance, any appropriate emphasis or dignity of appearance. This difficulty is much lessened when the height of the ground floor, as called for by the plan, is considerable, or when the building or the entrance to it is approached by a flight of steps. In the present instance, however, not only is the height of the ground story comparatively low, but the entrance is almost on the level of the street. Consequently both the first story and the entrance, notwithstanding the admirable simplicity of their treatment, look somewhat insignificant in relation to the rest of the façade, and the architects would apparently have done better either to





69 East 79th Street, New York.

RESIDENCE OF GEORGE L. RIVES, ESQ.  
Carrère & Hastings, Architects.



RESIDENCE OF GEORGE L. RIVES, ESQ.—MANTEL IN DRAWING ROOM.  
69 East 79th Street, New York. Carrère & Hastings, Architects.

have given some additional emphasis to the ground story, or else to have reduced the architectural scale of the design of the two middle stories. In spite of this minor defect, however, the façade retains much of the flavor of its eight-

eenth century originals. Its total effect is characterized by repose, distinction and style, and it is these qualities which make this house front worthy of study and imitation by other American architects.



RESIDENCE OF GEORGE L. RIVES, ESQ.—HALL.  
69 East 79th Street, New York. Carrère & Hastings, Architects.



RESIDENCE OF GEORGE L. RIVES, ESQ.—DINING ROOM.

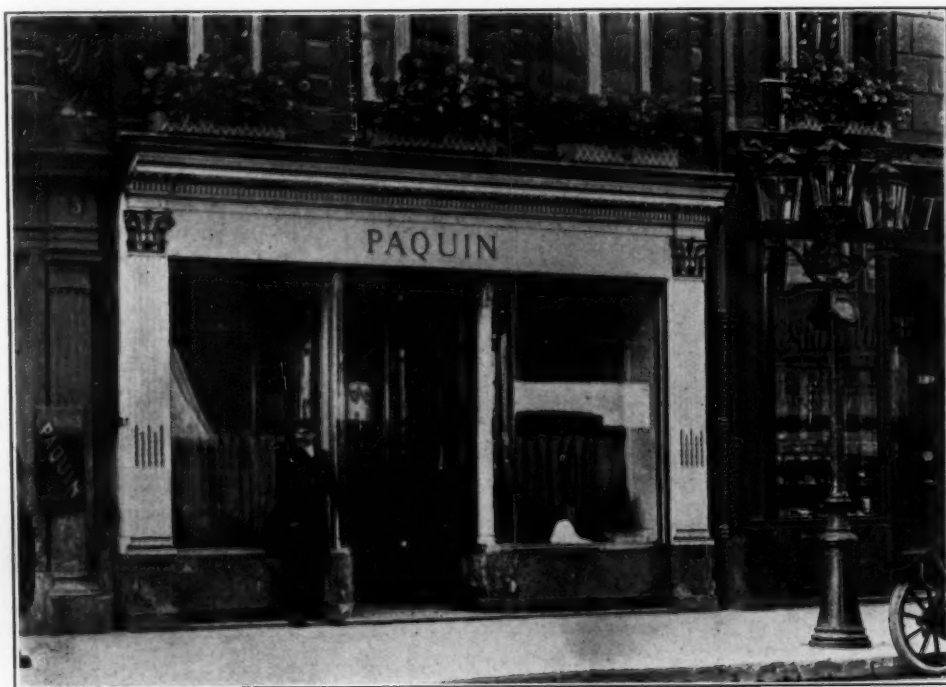
69 East 79th Street, New York.

Carrère &amp; Hastings, Architects.



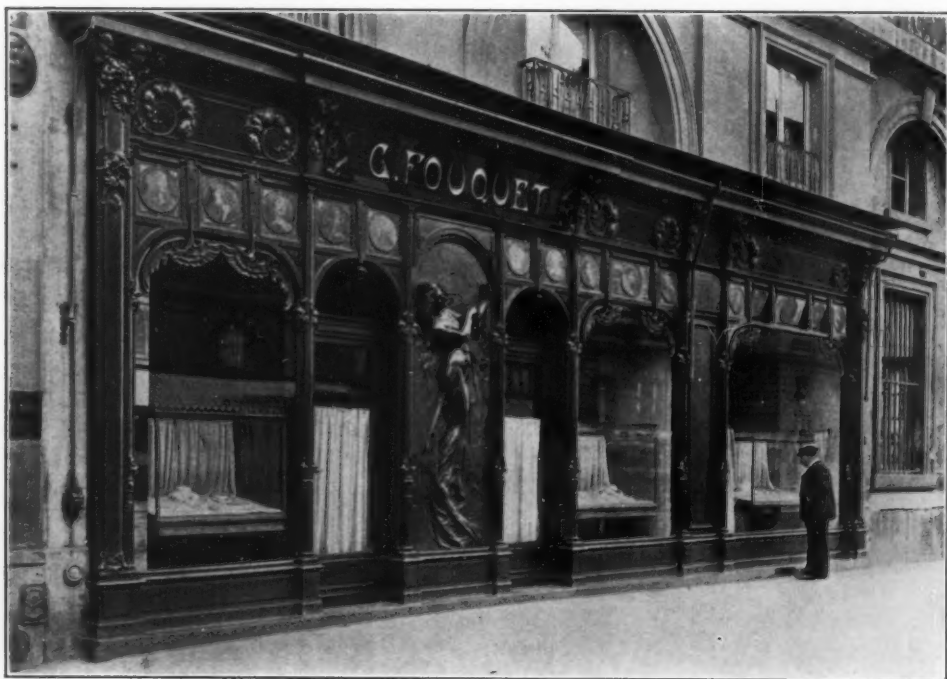
## SUGGESTIONS IN SHOP FRONTS FROM PARIS

1—PAQUIN'S—At Paquin's place, No. 3 Rue de la Paix, the front is all of pure white marble with a base of yellow Sienna. The caps, bases, mouldings, the ornament in the frieze, and the name are all in brass. The effect is rich and chaste. It is distinctly a woman's shop, a shop for a woman coming in a private carriage. It stands out from its neighbors markedly but not blatantly. It has charm, a charm which is enhanced by the happy use of flowers in the windows above. It is an excellent example of the combination of good taste and appropriateness.



1—PAQUIN'S.

2—FOUQUET—At No. 6 Rue Royale is the front of the jeweler, Fouquet. It is designed in a very interesting art nouveau manner, and is even more interesting on the interior. It is designed by Mucha in collaboration with Monsieur Fouquet. The wood is ash in its natural color. The ornaments are of cast iron painted bronze color. The base and steps are of brass. The little square panels above the windows are of colored glass. There is no one big display window. That would have been entirely out of place in the front of a high-class jeweler who makes all of his designs himself. No; small windows are necessary, but among many small features something is necessary to attract attention to the entrance. This is done by the bronze panel in high relief; a bit of most graceful design. It is all the work of an artist, and an artist who has a feeling for structural lines.



2—FOUQUET.

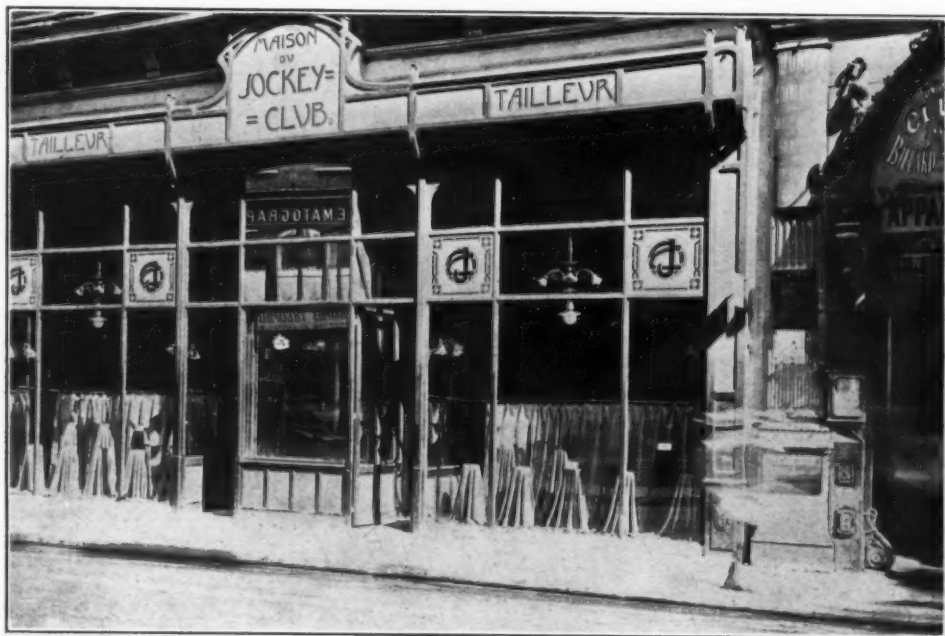
3—MODERN SHOP—At 338 Rue St. Honoré is an interesting millinery store in art nouveau. It is of wood painted to imitate oak. The background is painted dark blue. The ornament is in iron bronzed, as is also the grille of the windows. The idea was to obtain a front which would attract attention on a narrow street. So the front was treated as a whole with the use of two big sweeping curves. The show space on either side was made as wide as possible; the door being narrowed to the minimum. A single rectangular sheet of glass runs behind all these curved lines either side of the door. As its name implies, it is distinctly "Modern Style."

4—MAISON DU JOCKEY CLUB—The tailoring shop called Maison du Jockey Club on the Boulevard des Italiens is an interesting attempt in art nouveau to give extreme brightness and attractiveness to a shop front. The woodwork is painted two tones of light buff white, the panels being the lighter tone. The names and signs are on glass illuminated from behind. A column comes in the center of the façade. This leaves a vestibule entrance on either side, the outer door of which is flush with the street. The mirrors about the column prevent the façade from being disrupted. The façade as a whole is most open and attractive. It tends to draw the passerby within.



3—MODERN SHOP.

5—ROYAL MAIL—At 4 Rue Halévy is the office of the Royal Mail Steam Packet Co. This is in natural oak with the sign in glass and wrought iron. The columns are of marble with bases of brass. The contrasts of color and texture of the marble and glass with the oak is most pleasing. The mezzanine floor is well marked yet well tied in with the rest of the design. The radical feature is the running of the big show window dissymmetrically behind the columns to allow the maximum space for a big ship model. The entrance door takes the little space left at one end. This is unfortunate, as it leaves the entrance cramped and uninviting.



4—MAISON DU JOCKEY CLUB.



5—ROYAL MAIL.



6—FIAT—At 9 Rue de la Paix is the shop of the Fiat automobile. The main features are in iron, painted a dark greenish tone, with a base of dark Alps-green marble. The letters and ornament are picked out in dull gold. The mosaic across the top is of glass and marble of a yellowish red tone with the letters picked in blue. The doors are large enough to permit of the passage of an automobile. There are no show windows as such. Thus the whole front becomes one grand show window; the whole interior the show space. The ornament is free, in good scale and happily placed. The introduction of an automobile wheel into it gives the ornament a certain distinctiveness. The total effect is one of unity and appropriateness; the result of conscientious study.



6—FIAT SHOP.

7—ROCHER FRÈRES—At No. 2 Rue Halévy there is an interesting front of Rocher Frères, in mahogany with the columns and the background of the sign in light greenish gray marble. The lamps and grille are of wrought iron; all the ornament is gilded. The mezzanine floor is quite successfully incorporated within, the whole front forming a simple mass of the whole design. The relative proportion of the whole front devoted to entrance as compared with the display space is as it should be in a shop of this sort. The bright columns at the middle attract attention to the entrance. The whole is characterized by richness and appropriateness.



7—ROCHER FRÈRES.



8—COMPAGNIE GENERALE TRANSATLANTIQUE.

8—COMPAGNIE GÉNÉRALE TRANSATLANTIQUE—This front by M. Nenot, architect of the "Sorbonne" in Paris, is in its bigness and monumentalness quite worthy of the greatest steamship line of France. As a front it is eminently adapted to its purpose. It is essentially an office and not a store, yet the large unbroken show window in the middle permits of the display of one of those marvelously wrought models of ocean liners, a most dignified, and at the same time, one of the best forms of advertising. The richly sculptured bronze work about this opening gives perfectly the illusion of a picture frame to set off the display within. Carrying up two stories the graceful stone order with its rich ornament in bronze, gives a nobility to the whole that is most impressive. It is a happy adaptation of monumental architecture to a wholly practical plan.



9—WARING & GILLOW, LTD.

9—WARING & GILLOW, LTD.—The Waring-Gillow front, just back of the Opera, is of special interest, as it runs through two stories. It is of brown oak with bronze caps and bases to the columns, and bronze letters. The letters on the upper part are painted white. The panes in the upper windows are leaded. It is noteworthy as about the only attempt to introduce modern English architecture into Paris. It is the shop of an English decorator, and as such is most appropriate. The turning of the corner is well done in that it gives plenty of light inside and yet ties in well with the rest of the scheme. The flower boxes with their bright colors contrast richly with the duller tones of the building. Bostwick gates enclose the windows at night. Its homelikeness invites you to step within and study further.



10—SINGER SEWING MACHINE COMPANY.



11—ARTHUR TOOTH &amp; SONS.



10—SINGER SEWING MACHINE COMPANY—At No. 38 Avenue de l'Opera is the shop of the Singer Sewing Machine—all in light yellow oak of Louis XV design. The view shown is of the façade on a side street. It is typical of the free way in which the Frenchman solves his problems, especially in the irregular closing off of one end by a grille and a curtain. The bigness of the mass is retained, yet the whole well answers its requirements. The open scrollwork at the top makes an interesting frame for the display within. It is a successful adaptation of Louis XV to commercial architecture.

11—ARTHUR TOOTH & SONS—At No. 41 Boulevard de Capucines is the gallery of Arthur Tooth & Sons. The façade is all of a rich dark red marble, known as "Rouge Acajou." The letters are gilded. The capitals, bases of columns, arches, door, grille and frame about the name are in gilded bronze. The base is of gray marble. This façade shows some of the possibilities of the combination of extreme elegance with utter unobtrusiveness. Here is a façade which in itself is about the last word, as far as richness of materials is concerned, and yet it does not vulgarly thrust itself out beyond its neighbors. In other words, it is refined and most fittingly so for its purpose. The choice of colors, too, is most happy, in that they enhance the value of the display within.



12—A LA MARQUISE DE SEVIGNÉ.

12—A LA MARQUISE DE SEVIGNÉ—At No. 11 Boulevard de la Madeleine is the shop "A la Marquise de Sevigné." The front is of yellow oak with a base of dark red marble. The letters are in gold on a sage colored marble mosaic. Here one may buy a certain brand of chocolate in various tempting forms or one may stop, as the sign reads, for "Five O'clock Chocolat." Everything about the shop is intended by its daintiness and refinement to attract the fastidious carriage public. With this end in view, much has been sacrificed to elegance of material and delicacy of detail. The actual show windows have been reduced to a minimum, the entrance has been made particularly open and inviting. Thus a peculiar problem has here been solved and solved well.



## NEW YORK SKYSCRAPER ARCHITECTURE, OLD AND NEW.

The building on the right is the home of the New York World and shows the tower as a crowning feature, while the building of the German American Insurance Co. on the left exhibits the extremely simple scheme to which the architecture of the high building has little by little been reduced.

## Reminiscences of Russell Sturgis

An author's printed words are the property of his readers, but his private letters are sacred confidences as long as he lives. When he has become famous and has passed to the majority the world has a right to know their contents if it can profit by them. They often reveal his inmost thoughts, expressed without the reserve or formality which one has to observe to avoid the antagonism of carping critics and disputants. But they always reveal a personality which is often veiled by the writer's modesty during his lifetime. That is what the world likes to know, and can only know when they appear as a revelation of candor and character only half suspected.

It is with such a thought that I have been persuaded to make public a few extracts from letters received from my friend and companion through many years, Russell Sturgis. My acquaintance with him commenced while in college (now the College of the City of New York) more than half a century ago; but we have lived nearly a thousand miles apart for thirty-five years since that time. We used to meet after regular hours in the room set apart for the drawing master (professor of fine art, his successor is now called), for we were not satisfied with the regular work, and put in extra time drawing from the excellent collection of casts from the antique, which the department then contained. On the way homeward we had to pass the All Souls Unitarian Church, then being erected at the southeast corner of Twentieth Street and Fourth Avenue, New York, from the plans of the late Jacob Wray Mould, the first commission of importance which came to him after his arrival in this country, following his apprenticeship with Owen Jones. And such drawings! I have never seen better ones since. Everything was drawn in ink and colored on fine white drawing paper, backed with muslin. It became our habit every day to study those plans and compare them with the work being executed. We were

fascinated, and I may say then and there both were impressed for the first time with the desire to become architects.

Our friendship was cemented by the study of Mould's drawings, and then we commenced to read architecture. We read all the books on the subject to be found in the college library, including a set of Ruskin's "Seven Lamps" and "Stones of Venice," which had just come out, and Sturgis began to buy books, as he had more spare money than I had, and I began to devour them. This habit, very convenient to me, was continued for fifteen years. Sturgis gradually acquired a splendid architectural and art library for that time; in fact, he acquired two libraries in his whole lifetime, and leaves the second one, as well as an immense collection of photographs which are to be sold.

It is no intention here to continue this as a biography, but only to mention a few periods in the life of Russell Sturgis which have not appeared in the obituary notices. At the breaking out of the Civil War, in the spring of 1861, we were both in New York, with no work on our hands, but lots of time to rummage in the architectural alcove of the Astor Library. Everybody then commenced to learn how to fight, and the arts of peace were forgotten for a time. We had both been trying to learn our profession up to that time, and each took a different course. In the midst of getting office practice he had spent a year traveling in Europe, and I had put in the whole year 1859 in practicing for myself at Chicago. But when the war came on, both being in New York, the first thing we did was to join an awkward squad of four and engage an ex-Prussian soldier to drill us in infantry tactics. Then he got an appointment as supercargo in a transport going to the Carolinas, and made one voyage. I borrowed books at West Point and crammed for a military engineer. But there both of our military careers ceased. A chance loomed up and we both

went into a famous competition. After waiting two years it was decided in my favor. Then, in 1863, we decided to hire an office and share the expense between us.

It was at 98 Broadway, opposite Trinity churchyard. We had a front room on the fourth floor. After a few years we took another adjoining room, also with front windows, the new room being assigned to the writer. There we remained until the fall of 1868.

Sturgis never had a draftsman until he engaged George Fletcher Babb, whom I had met in the first office in which I ever worked, in 1857, and who had been in practice for several years with a partner. The tie between Sturgis and Babb became a very close one, for they were both sympathetic artists. They worked together several years, until Sturgis decided to take an office alone. It was all very pleasant. We could look over the trees to the architectural "bird nests" in Trinity Building, and sing hymns on red-letter days to the accompaniment of Trinity's chimes. It was while there that we were invited one day to go over to Littell's office and be introduced to the new arrival from abroad, Henry Hobson Richardson. It was in that office also that we first met Larkin G. Mead and his brother William R. Mead. While there, Sturgis engaged Alexander Sandier.\* Diplôme of the Ecole des Beaux Arts, who was looking for employment in New York, to redraw for Larkin Mead the plans of the Lincoln monument to be erected at Springfield, Illinois, for which a sketch had been made by an Italian architect. Mead had been commissioned to do the whole thing, and had modeled the sculpture, but the Italian's work was impracticable. The Sandier plans were never carried out, but were so changed by a Springfield carpenter that the design was unrecognizable in the complete monument. William R. Mead became a student of Sturgis, and when, in 1868, he moved over to 57 Broadway, Babb and Mead went with him. This was the beginning

of the second architectural "bird's nest" established in New York. Sturgis took other students, and there most of his architectural work was done. Charles F. McKim was also a student there for a year before he went to Paris for further studies. When McKim returned from Europe he took Mead in partnership, and they had an office in the same building. That was the beginning of the firm of McKim, Mead & White, from whose office so many architects graduated. Mr. Babb is now head of the firm of Babb, Cook & Welch, New York.

Mr. Sturgis later moved his office and practice to Seventeenth Street and Fourth Avenue, and remained there until he took his family to Europe in 1880, where they remained four years. My personal reminiscences of Sturgis as an architect end with his removal in 1868. I remained at the old office until December, 1871, when I moved to Chicago. From that time to 1891 I was a frequent visitor at New York, and for that reason we had little occasion to correspond. The first letter from Sturgis after that time was dated March 15, 1894, and it was only an inquiry as to what I might be doing. It was but a short time after his long visit in Europe. His letters show that he still contemplated doing architectural work if it should come his way. But he was already best known as a writer. His literary work, however, commenced at a much earlier period. We were both members of the Society for the Advancement of Truth in Art during its existence from January 27, 1863, until February 27, 1865, when it was dissolved. The society published a monthly journal called "The New Path," which first appeared in May, 1863, and was discontinued at the end of the second volume, the last number of which was issued December, 1865. Mr. Sturgis was an extensive contributor to its pages. One cause of the discontinuance of the magazine was that its writers attracted the attention of publishers of journals of wide circulation. Clarence Cook, who was the editor, went to the New York "Tribune," and was its art editor until his death.

\*Sandier afterward returned to Paris. He was at Chicago on the designing force of the Director of Works of the World's Columbian Exposition, and is now Director of the Architectural Ceramic Dept. of the Nat'l Factory at Sevres, France.



Sturgis was afterwards the art critic of "The Nation" from its first appearance, and was art writer for the New York "Evening Post" and other journals, and editor of the "Field of Art" in Scribner's Magazine until his death, as well as having been a frequent contributor to the "Architectural Record."

I will pass over his long experience as an author of books on the fine arts, including architecture, except so far as they may be referred to in his letters. He is already known by them in two continents. But his inner thoughts have been revealed to me in such an interesting way, in a correspondence covering a period of thirteen years, with only a few breaks, that I feel that the public should have the privilege to share with me the few extracts that are herein given.

Referring back to his letter of March 15, 1894, and a later one of March 28, in which he gave his plan for resuming architectural practice with his son, it can only be said that his expectations were not fulfilled. He had then been editing the art department of "Johnson's Encyclopedia," for which he had given up his lecturing, and was actively working with the Architectural League, the New York branch of the Archaeological Institute, the National Sculpture Society, the Numismatic Society, the Municipal Art Society and the Grolier Club. During that year, also, he was greatly interested in the project for procuring a new site for the college from which we had both graduated, proper for the buildings, and took an active part in the work of the Alumni Association to that end. A year later he was disappointed in that the architects who were its graduates had been given no opportunity to compete for the planning of the new buildings.

Then the period of his more serious literary work commenced, and his "European Architecture" soon appeared. On December 18, 1896, he was anticipating that there would soon be a competition for the new Academy of Design building. He wrote: "The Classic revival is having it all its own way here now. It is not the work of highly taught men of the Paris school, but that of fellows

who merely take their design ready-made from Vignola. C—— and H—— are as far from being in the Classical revival as Haight is, although their designs have a classical basis. If my son should wish to make a design to please the academicians, I should advise him to make a design in the style of the Renaissance. I mean the real Renaissance of the Italian fifteenth century, because he could never endure the hateful restraint of the Roman colonnades, while, at the same time, nothing but classical forms would be expected to go down."

In this letter he spoke of the interesting meetings of the Fine Arts Federation as follows:

"This business of the Fine Arts Federation brings me in contact with a good many artists who are members of the Academy, as well as other societies; and, what with committee meetings and conferences of one sort and another, our interviews are very frequent. During the first year, only the representatives were summoned to the meeting, they to notify their own alternates to replace them in case of need. Now, the secretary notifies all the delegates of both classes. We meet sometimes at the Century Club, but more often at the Academy of Design, where the large council room, which you arranged, is given to us freely, with gas and an open fire, and where the janitor arranges a snack of cold ham and cheese and beer with Scotch whiskey and sparkling water of some kind. Sometimes we meet on Monday night, and then we have the library of the Academy, and those members of our council who are also members of the Academy's council manage to come to both meetings."

The following is from his letter of February 9, 1897:

"Your article in the 'Inland Architect' is more to me than a friendly and appreciative notice of my book, and more even than a laudatory obituary written before date. It reminds me of old times, when you and I were beginning our attempts to rectify, and magnify, and glorify American architecture—a time when everything seemed possible. We have had some pretty serious disappointments since then, and we know now that archi-

ture is not going to be revived in its pristine vigor and beauty in our time; nor yet, so far as we can see, in the time of our successors. I have a son in the profession, and he is almost the only one of the young architects here who seem to me to be trying to design along the designs of intelligent purpose. Apparently there is no one else who, when he has a house front to build, sits down and thinks what that particular series of openings for doors and windows suggests to him in the way of a front. Everybody else is doing the big bow-wow classic, and, generally, in the most unintelligent way. There was a curious instance the other day, showing that some of them, at least, are quite aware of this. At a meeting of the Architectural League one of the more intelligent of the young men was making a vigorous speech about matters connected with the work of men, who, like himself, were trying to work their way up, and he cited the Academy of Design. I was amazed, for I had supposed that no one of these younger men knew that the Academy of Design was an architectural composition at all. He, however, said that he was quite aware that their designs amounted to nothing, that they were not really producing designs, but, he said: 'Do not you suppose that we know that the men who built the Academy of Design and such like structures had to sweat blood over their work? Do not you suppose that we know that they spent their nights and hard, long days over their designs? We,' he concluded, 'cannot undertake to do that; we cannot afford to do that. If we are going to make our living we must do our work in a simple fashion.'

"The above does not pretend to be in any way a quotation, but a mere recollection of what his speech amounted to. I was glad to know that they were aware, those young fellows who seem to believe in the Roman orders and nothing else, that there was something else besides the mere stealing of a page from Vignola. I have been reading a book about John Wellborn Root, and it is surprising what intelligent sayings are ascribed to him.

"The reviews of 'European Architecture' have been satisfactory in one re-

spect, that they have been long in most cases, and careful. The only disappointments I have had have been in the Chicago 'Dial,' an admirable paper, I think the best of our literary weeklies, in whose columns I was vexed to find only a brief notice of my book, treated together with other books as one of many, and one other. The English reviews I have not read. I expect nothing but disfavor, or limited and begrudged praise from them, because it is quite impossible for an English writer on architecture to admit the true archæological standpoint with regard to the origin and nature of Gothic. They all treat Gothic architecture as a branch, not of the great European building reforms of the twelfth century, but as a branch of English ecclesiology. As one of the English papers, indeed, seems to have said about 'European Architecture': 'Mr. Sturgis cannot be right about Gothic architecture being so largely a style based upon vaulting, because if it were, what would become of our Gothic? Our English Gothic is not altogether a vaulted style. Many of our buildings are not vaulted at all—even Sturgis thinks it is? This is only the American theory.'

"All of which is very funny, but it also, as I tell my publisher, puts almost out of the question the sale of any large number of copies in the United Kingdom."

Mr. Sturgis believed that the literary laborer was worthy of his hire as much as any other, and had no use for journals that got their matter second-hand or from ambitious amateur writers. Incidentally, in a short business letter dated February 12, 1897, he said: "It is a pity that the architectural weeklies are generally unable to pay fair wages for original contributors. The 'Architectural Record' sets them a good example in this respect, and now the 'Brickbuilder' is offering pay which is almost adequate." It is well known that Mr. Sturgis was not dependent upon his architectural work or his writing for a living. He never, as he once told me, wrote a book without a contract and guarantee from a responsible publisher, and never gave a guarantee to cover the expense of publication.

In another letter on the 16th of the same month, he gave his candid opinion of the Beaux Arts Society, which might also interest Mr. J. Stewart Barney:

"There are two things to put on record as regards that society:

"First, that it is little more than an alumni association, a gathering together of the men who came from the Paris school and who want to renew their old friendships and recall the good times of their youth; and,

"Second, that the leading men of this school are as far as may be from being mere blind classical revivalists. What I mean by a mere classical revivalist is precisely anyone of the firm of M.— M— & W—. That firm is deliberately working—and has been for three years working—in the direction of mere blank, bare, square, unvaried, unmodified boxes with square holes cut in them, except where a Roman colonnade is introduced. They seem to choose deliberately the no-style which consists in following the blankest and least interesting Italian work of the seventeenth century, merely reducing it to a still blanker and barer monotony by leaving out the slight vestiges of sculpture which that late Italian style had preserved. This style they would be wholly unable to recommend but for that good taste which is the unquestionable gift of the designers of the firm. Moreover, they emphatically preach the gospel of this staring revived Roman which is, indeed, a mere continuation of the Lyceum style, the style of the Greek buildings that were going up when you and I were born.

"Now, in all this, the example of such Beaux Arts men as C.— and H.— is very different, and their best designs are really of great merit. Their Paterson City Hall seems to me an extraordinary production, one of the best things of our time. If they have sometimes missed their mark and produced such monsters as one or two of their business fronts in New York, that is only one of the incomprehensible vagaries of sensible men. All that I want to insist upon is that, according to my lights, it is not the influence of the Beaux Arts Society or of the Paris school at all, in no matter how

remote a degree, which has given us the accursed influence of the Chicago Exposition and the resulting classical revival of our time.

"You must have observed how uniformly the French visitors to the fair denounced the buildings of the Court of Honor. The only things they had a good word for were the Transportation Building and parts of the Fisheries Buildings. As for the Roman colonnades, they sneered at them as being the school work of their authors, revived for the purpose; and they intimated very plainly that this returning to their schoolboy work signified merely the adoption of what was easiest and quickest done. My own belief is that they were right in this. I cannot but suppose that the reason why M—, M— & W— and other such firms resort to this Roman style is because it must be so very easy to work in. However that may be, it is a most depressing and saddening symptom. Nothing discourages me more than to see the willingness with which our millions here are given to such fatuous designing; but if I go into this subject I will never have done."

On March 23, in the course of a letter introducing a Japanese architect who desired to see the architecture of Chicago, he said, incidentally:

"The difference between the constructional achievements contained in your lofty buildings and the artistic weakness which Chicago shares, I suppose, with our other cities, must be very difficult for anyone to seize. You, more than anyone, are capable of pointing these out to Mr. Yokohawa. A building is not less contemptible as a work of art because it is a triumph of modern mechanical skill."

On April 23—his desire to console me for the neglect of the National Academy of Design to invite me to compete for its new building—he said:

"As a partial explanation of the refusal to invite you, the present strong leading toward a formal kind of classic must not be lost sight of. In the case of Columbia College this was very marked, and the resulting slight to their excellent and in every way meritorious

architect, Haight, was a great scandal. In that case, M—— M—— & W—— were chosen in advance on a direct vote of the trustees, and so was the style fixed in advance.

"You would have to be among the younger architects and the head draughtsmen to realize how strong is this tendency. It is ludicrous, the way they denounce and decry everything which is not a very formal classic design. They ridicule even good pieces of Renaissance because they do not conform to the Vignola standard. There is one thing certain: the men who import books and photographs think that nothing will sell except Classic or else sixteenth-century Italian subjects!"

It was in the following months of that year that he commenced his great labors on the "Dictionary of Architecture." In these letters he showed his very catholic desire to make it as comprehensible and fair to all interests as possible, and to cover many subjects of interest to practicing architects which had never before had a place in such a work. He desired, moreover, to get the best assistance from authorities and writers all over the country so that it would be truly an American dictionary. He proposed to me all sorts of subjects, many of which I knew little about. That was the subject of all his letters until January, 1901.

On March 1 of that year, after two volumes of the "Dictionary" had appeared, he began to be anxious about the criticisms. He said:

"There is no doubt about arrangement of the Macmillan dictionary lacking uniformity. I do not understand the application of the terms 'science' and 'scientific' to such a matter, but it is evident to everyone that the text is somewhat disproportioned. That was the inevitable result of the strong wish felt by the publishers to employ first-rate contributors. I could not go to a first-class man and ask him to work at a low rate of pay for anything but a somewhat long article. How could I ask Phrené Spiers, or W. P. Gerhard, or Walter Cook to write for a cent a word, unless they had several thousand

words allowed them? The admission of these long articles crowded the rest of the work. We ought to have had five volumes instead of three, and that is exactly the situation."

In July he had to give up work on the third volume and went to Lake Mahopac. He wrote on the 17th:

"I have also the draft of an article for the F. of A., and have had it read to me; ever since it came I have been sick and unfit to do more than a part of the most pressing work. I had worked right through our hot spell—Sundays, Fourth of July and all—pushing the last revise of Vol. III. of the Dictionary. Then I came up here to rest and curled right up with gastric attack. So, from starvation mainly, I am as weak as a cat."

I did not hear from him again until October 8, 1902, when he wrote again, covering several topics. It was in answer to a letter in which I suggested to him to write an article on the fast-disappearing buildings of Frederick Diaper, of New York, and to get photographs of them if possible. The so-called Classic and Renaissance revival at New York had produced work which was in such violent contrast with the refined Palladian Renaissance of Diaper, of which there were once so many excellent illustrations in New York, that I thought Sturgis, being on the spot, might be able to call attention to the contrast and perhaps secure illustrations of them before it was too late. They were nearly all built before photography had become a popular practice. Here is the letter nearly in full. It is in one way prophetic of what Mr. Schuyler has already done in the "Architectural Record":

"I note what you say about the Dictionary not selling so well in Chicago as it ought to do; but it has done well, on the whole. There is a reprint of it now, for the first edition (2,000 copies) was nearly exhausted last May, and we had to print in a hurry. Still, however, I found time to correct some typographic errors, and as far as that goes the reprint is a better book. My son, who is in Macmillan's house, and who was for a while in Chicago acting for



them, tells me that what you speak of as peculiar to the Chicago architects is, as he thinks, characteristic of all classes there, that they are impatient of any suggestion that they can learn anything from the East or from Europe, and are inclined to go it alone in rather excessive fashion. They will learn better by and by. In the meantime that spirit has given the world some things rather important, as I think, to our American architecture. Thus Louis Sullivan's work is, to my mind, of the greatest interest and promise, and I can hardly imagine his having done in the East all that he has found it possible to do while working with Chicago as a center.

"Now as to your remarks concerning Diaper. I could not undertake it myself, because I am constantly occupied with articles for periodicals and encyclopædias and the like which are forced upon me, as it were. I cannot get time to push one or two books which I have in hand, or sketched out, because of the constant succession of these demands. If I were familiar with the subject I could, of course, dictate the article rather readily, but I have never collected illustrations or memoranda of Diaper's work.

"As for Eidlitz, there again I am unfortunate. I fully expected to find among my photographs views of the American Exchange Bank and of the Continental Bank, which have now disappeared altogether, but they are not there. I am prepared to give a good price for such photographs if I could get them. The Tabernacle Church is not important, I think; but those banks are really a great loss to us. Besides the Academy of Music (Brooklyn) and Temple Emanuel there is the bank at the corner of Second Street or Third Street and the Bowery,\* and of course his work on the Capitol at Albany, of which much remains, although the Assembly Chamber has been, very properly, altered out of all recognition. Montgomery Schuyler knows Eidlitz well and admires him greatly, and I have imagined intended to write an article about his work. He is also a constant contrib-

utor to the 'Architectural Record,' and I fancy that if Desmond thought there was room for such a paper as I suppose, Schuyler would have written it long ago.\*

"It is a pity that we have no journal which is successful enough to pay properly except the 'Record.' I suppose that the Boston 'Review' or 'American Architect' and the other monthlies and weeklies pay very badly.

"This might be feasible—some of the successful monthlies might be induced to take an illustrated article on the disappearing monuments of architecture, and include Eidlitz's banks and your Academy of Design with such other buildings in New York and other cities as we might think of. Do you suppose that anyone of Diaper's is important enough to be included in such a list?"

That Sturgis' thirst for knowledge was still manifest at this later period of his life is shown in many letters in which he wanted to be posted on improvements in fireproof construction and even smoke prevention. He saw the opportunities for a newer artistic expression in architectural design in the use of new materials, as an extract from the following letter of December 22, 1902, will show:

"My own feeling about the matter is that the mere exclusion from buildings of all materials that will burn is really easier than the architects will admit. I think that it is only the unwillingness to adopt such novel principles of design as the really fireproof construction would involve that prevents the improvement needed. If you or I were to be left a free hand to build without wood, our building would look very different from the old wooden buildings; it would be none the worse in design, probably better, but it would look very odd. Well, you and I have never been so very much afraid of making things look odd. Sometimes good architectural art is only to be advanced in that way, namely, by somebody bold enough to be an innovator."

I had only one short letter from him in 1903, and that told of how he had

\*Dry Dock Savings Bank.

\*The Arch. Record, Sept. and Oct., 1908.

been interested in literature which I had sent him on the subject of smoke prevention. In the spring of 1904 he wrote of his expectation of visiting many cities on his way to and from Chicago, where he was to deliver the course of Scammon lectures at the Art Institute. But his expectation was not fulfilled. The weather was very bad all of that spring. He was far from well, came direct to Chicago and returned as he came. He kept his room nearly all the month that he was there. He knew very little of his country west of New York. He had only once gone as far west as Keokuk, Iowa, many years ago, as he reminded me in the letter received just before his arrival at Chicago, to see a house which he had designed. I saw him for the last time when his lecture course had been concluded. He could not even leave his hotel to see the mural historical paintings by Lawrence C. Earl, illustrating the history of Chicago, in the Chicago National Bank,\* and after his return home I had to send him a pamphlet in which they were illustrated, at his request. Of these he wrote as follows, October 24, 1904.

"This morning brings me yours of the 21st, and also the little oblong pamphlet with illustrations of Mr. Earl's paintings. The moment I saw the pamphlet I recognized the fact that I had never, during the two years that I had possessed a copy of the pamphlet in question, never associated those lunettes with the matter of mural paintings in any particular Chicago building.

Later correspondence related to the early history of the American Institute of Architects, in which he began to take a renewed interest, much to my surprise. His last letter to me was on that subject, dated October, 1907, which I answered. But I never heard from him again. I was obliged to give up work and recuperate a few months during the following winter in California, and he was plunged deeply into the first volume of his "History of Architecture." For this great and final work of his career, his life-candle burned brightly to the end,

after the first volume appeared and when the second was nearly ready. His devoted wife, writing to me after his death, said: "It was the brain that failed at last. He did not suffer, and that it is a great comfort for us to know."

\* \* \*

An estimate of the qualities which the life and work of Russell Sturgis exemplified involves two principal characteristics: first his power of acquisitiveness; second, his settled purpose, as shown by his writings. I doubt if any other man ever lived who acquired such an extensive knowledge of all that concerns the history of art in all its branches. There is no extravagance in this assertion, if we remember that he was a modern, and had access to a knowledge of what has been revealed through the experience and researches of others down to the present time.

In his first published paper, referring to the necessity for knowing things rightly, he said: "Now it is the curse of Yankeedom to be thoroughly informed concerning *nothing*, but to pass snap judgment upon everything that comes within its range of vision. It is the most scarce of American productions—complete knowledge of anything worth knowing. For complete knowledge is the result of *attentive* study and *patient* thought, while the two evil geni of our century and race are just *Inattention* and *Impatience*."

He was a student from his college days to his death. It was during those college days that he began to be impressed with certain principles pertaining to all art which were developed later into a *settled purpose* to devote his life to the study of the truths of nature, which have been exemplified in art throughout all the historical periods. As a member of the Society for the Advancement of Truth in Art he had subscribed to its creed in 1863. Referring to this in address delivered March 17 of that year, he said:

"So I, to make a beginning, take up to-night the architectural clauses of that first article, to say what may be made of them.

\*Now called the Central Trust Co.'s Bank.

"'We hold,' says the article, in our name, 'that, in all times of great art, there has been a close connection between architecture, sculpture and painting; that sculpture and painting, having been first called into being for the decoration of buildings, have found their highest perfection when habitually associated with architecture; that architecture derives its greatest glory from such association; therefore, that this union of the arts is necessary for the full development of each.'

"It follows that, whenever this state of things does not exist, then is no time of great art. It does not follow that it must always be a time of great art when this state of things *does* exist; that depends on the power and truth displayed in each art, and on the truth displayed in each art, and on the subtlety and grasp displayed in their association; but never mind that, now; let us be content with boldly declaring all art not answering our description the reverse of great. So shall we narrow the field and simplify our future inquiries!"

This was the beginning of his literary career, and that creed affected all his critical articles. As he grew in knowledge his ideas broadened and he became tolerant of the opinions of others; but he never deserted the principles that he had enunciated in early life. In his published writings he followed the advice of Matthew Arnold to always first find what is best in everything before condemning the faults. He was less conservative, however, in his private communications, as he had a right to be. They are the best evidence of those convictions which were his settled purpose in life.

It is well known that the creed above

referred to advised that "in seeking for a system of architecture suitable for study we shall find it only in that of the Middle Ages, of which the most perfect développement is known as Gothic architecture." This was promulgated when the so-called Gothic revival was already prevalent in England, and was only beginning to have some manifestations in this country. It was the first and only plea for the fine art of architecture that had been made in America up to that time. But it was not made without an explanation of its meaning which Sturgis offered in the first number of the "New Path" that was issued. Looking back now, over a period of forty-six years, we can realize in the frightful examples in which it resulted at the hands of those who did not understand it, how little the true meaning and purpose of the Gothic revival was appreciated. These were his words: "*The exact reproduction of mediæval work is only desirable in so far as it may be necessary to regain the lost knowledge of the vital principles that controlled it. Out of the careful study and application of these principles a true and perfect architecture is sure to arise, adapted to all our wants, and affording the most ample field possible for the display of our artistic power.*"

Even to-day, after all that has occurred since that time, no ultra-conservative will dispute the truth of this. The lesson that was unheeded has survived, and there is still hope for the realization of these principles, whether they find expression in any of the experiments of the last forty-six years with the decadent styles of architecture or in a rational style which is still to be developed.

Peter B. Wight.

## Architectural Refinements in Mediaeval Churches Computed

The readers of the *Architectural Record* are familiar with the published investigations of Professor Goodyear, of the Brooklyn Institute of Arts and Sciences, into the nature of certain architectural refinements of the north European mediaeval churches. In his researches he has established the existence in their construction of certain deviations from the geometrical for the purpose of creating optical conditions whereby a desired architectural effect is produced.

Professor Charles S. Hastings, of Yale University, establishes below a method of investigating from the photograph the extent of these deviations and of calculating the precision with which the mediaeval masons worked. As a continuation of Professor Goodyear's efforts to examine into the causes for certain apparently inherent excellencies of mediaeval church architecture, Mr. Hastings' paper should prove valuable, especially to those who might care to verify or disprove his conclusions.—Editors of the *Architectural Record*.

It has long been known that many of the great mediaeval Gothic monuments of northern Europe do not follow simple geometrical forms, either in their plans or in their elements of construction. Such features have been largely ignored by writers on Gothic architecture, or, if noted at all, have been treated as evidences of either originally defective construction or as proofs that the edifices have, since their erection, suffered deformations by yielding of their supports or foundations. Professor William H. Goodyear has been convinced, from his studies, that many of these deviations from geometrical simplicity have not only existed from the beginning, but were consciously introduced by the architects as essential parts of their designs. He has attempted to establish his theories by an assiduous collection of requisite data from such of these monuments as his time and the laborious nature of the necessary measurements permitted; he has displayed the results of these investigations in lectures and in printed papers of extraordinary interest. And, indeed, if his views are correct, their importance can hardly be overestimated; for they mean that this kind of rational, purposeful deviation from geometrical simplicity is an essential feature of Gothic architecture; remove it entirely, and whatever may remain it is *not* that architecture which is the glory of the twelfth, thirteenth and fourteenth centuries in Europe.

The task which meets the investigator in this field is to prove that the admitted departures from geometrical sim-

plicity are in no sense irregularities, since they lack the element of fortuity; to demonstrate that the haphazard character, which alone reduces them to the realm of accident, is wanting. Mr. Goodyear's method has been to select a large number of examples illustrative of the characters in question, to show their departures from simple regularity by photographs which contain proper reference lines, such as plumb lines or the like, so arranged that not only is the fact strikingly evident, but every examiner of his photographs can find the quantity which is the true measure of the deviation, and then, by a study of the nature of the masonry, demonstrate that supposed yielding subsequent to the erection is absolutely untenable as an explanation. In addition, the strongest support for his views is found in the extraordinary adjustments shown in the minor features of the structures which are indisputably contemporaneous with the building of the more organic members, such as the wall openings and the inclinations of jambs and of mullions, of which he has collected an astonishingly rich store. He has thus founded an irrefragable argument in support of the belief that these features, so strangely neglected by writers on the history of architecture, are the objects of intelligent design and should be classed as architectural refinements. Nor is it possible for any physicist or engineer who has examined the evidence in Mr. Goodyear's possession to entertain for a moment a theory which accounts for the peculiarities by move-



ments in the building subsequent to its erection; there is not only no stone which could suffer the strains implied and maintain its integrity, but there is no material known of such physical properties that it could under any kind of stress produced by weight suffer the kind of deformations that this theory postulates.

There is, however, an entirely independent method of arriving at the truth

definite measure of the fortuitous element of the structure itself. Again, suppose that after allowing for the effects of these elements of chance that there remained a residue which was obviously systematic, that is, which could be described in simple and unambiguous language. Under such circumstances one would say that the deviations were subject to law, and all the rules of logic would compel us to the



NAVE OF THE CHURCH OF ST. OUEN, ROUEN.

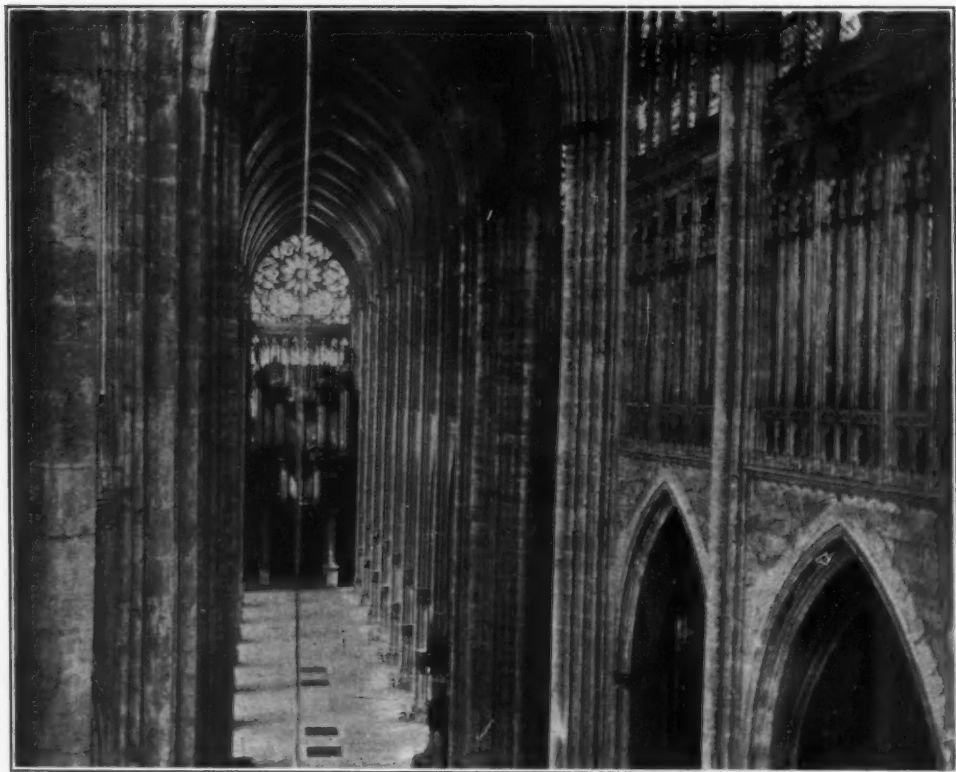
in a question of this kind. Suppose that we should make a careful study of any architectural monument of the Middle Ages and measure all the deviations from geometrical simplicity; from such a collection of measurements we could, by methods familiar to physicists and to astronomers, find a definite value to serve as a measure of the accidental errors of our measurements and also a

conclusion that the deviations were the result of intelligent design. Our attitude might be exemplified by that of a traveler in a desert, uninhabited region, whose attention was attracted to numerous irregularities on the surface of the hillsides which, following all the larger unevennesses of the ground, still exhibited carefully adjusted slopes, never reversed in direction. Such a



traveler would inevitably conclude, however faint and ruinous these remains now are, that he had here the evidence of the former existence of inhabitants who were familiar with the art of artificial irrigation. So in this field, a discoverer of a definite *system* of variations from normal simplicity can infer the previous existence of design without troubling himself at all either as to

and the curving of the vaulting shafts; thus, when I failed to find the latter peculiarity in St. Ouen, it seemed to me that the upward widening of the nave, which is so easily detected in Nôtre Dame, was there absent. This error was corrected only when Mr. Goodyear gave a lecture at this university early in the current term; then for the first time did I learn of his discov-



ANOTHER VIEW OF NAVE OF ST. OUEN.

the motives which stimulated the design nor as to whether the end sought by the designer was attained or not. It is by such methods and by such reasoning that I hope to add to the material and to the conclusions which are so closely identified with Professor Goodyear.

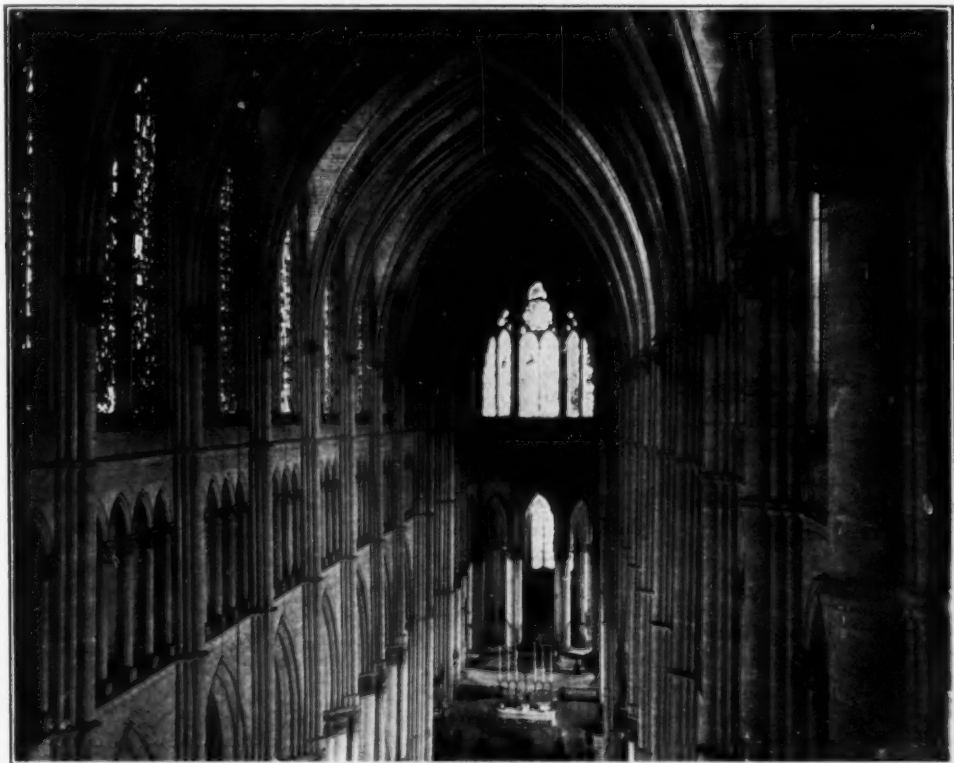
Until recently my own knowledge of the architectural refinements in Gothic mediæval churches was confined to the expedients of building the great divisions of the church on unconformable axes

ery of widening with rectilinear vaulting shafts. Shortly after I found a number of negatives which my daughter had made in 1901 and which seemed adapted for study. These were (a) a negative taken from the back of the choir in St. Ouen at the level of the triforium gallery, and approximately eight feet from the line of the north wall; (b) a second one, taken from the same gallery, about seven feet north of the line of the other wall; (c) and (d) from the north and

south ends, respectively, of the transepts at the same level, and, finally, (e) a negative, taken from the gallery at the level of the bottoms of the clerestory windows at the west end of the cathedral at Rheims. It is the results from the studies of these negatives which is the subject of these notes.

Before describing the methods of measurement, it is well to consider the

The first error entirely disappears if the plate is perfectly parallel to the system of lines whose mutual inclinations are sought from the plate; that is to say, in the case of vertical spreads, if the plate was accurately vertical. But even if there were an error of adjustment of this sort it would introduce divergencies of such a simple type that they could readily be eliminated from the measure-



NAVE OF RHEIMS CATHEDRAL LOOKING EAST.

quite obvious objection which may be urged that the photographs are not sufficiently reliable representations of the subjects for the delicate uses to which we are to put them. It is true that all photographic reproductions are subject to errors, but an analysis of the objection shows that we have only two classes of errors to fear. The first is the perspective convergence of parallel lines, and the second is the more or less inevitable distortion of the optical images.

ments. An example of the way in which this may be done will appear in the discussion of the variation of the nave width. In this series of negatives no perspective divergence of the vertical members of the structure could be detected, and we must suppose that the plate was essentially vertical. The camera was provided with a level.

The error of distortion appears as a continuous change in the linear scale of the image with the distance from the

center of the plate. Practically it is always an increase, so that the effect is to exhibit the image of a rectangular network with all its lines, except those which pass through the center, as curved lines, convex inward. In so-called rectilinear camera lenses, this error is very small, so that the curvatures introduced optically are wholly inappreciable to the eye; but in an investigation as delicate as that which here occupies us, it would not do at all to rely upon the condition of rectilinearity being perfectly attained by any optician, however skillful. Fortunately, the geometrical character of the errors is of such a nature that we can readily escape being misled by them through a properly devised method of measurement. It is obvious, from the description of the kind of distortion to which photographs are subject, first, that all straight lines passing through the center of the picture remain straight in the photograph; and, second, that all lines nearly at right angles to a straight line through the center preserve unaltered their inclinations to each other in the region near the diametral line. Hence, for example, if we are attempting to measure small deviations from the vertical of a system of lines, we cannot be misled by errors of distortion in the picture if the observations are confined to portions of the system near a horizontal line passing through the center of the plate. In the following measures the indicated precautions were carefully observed.

In order to determine angles, the negatives were successively placed on the circle of a dividing machine, which was mounted upon ways. Above the negative was stretched a fine wire. By a proper turning of the circle and shifting on the ways, any line of the negative could be brought under the wire and a coincidence secured with great accuracy. Thus examined, the first negative (a), which was taken from a point in the triforium gallery, about seven feet north of the axis of the church, showed a mean divergence of the piers on the opposite sides of the nave of 45.8 minutes of arc, with an indicated uncer-

tainty of 0.7 of a minute.\* Similar measurements of the second negative (b), taken at about eight feet south of the axis, gave 46.7 minutes, with an indicated uncertainty of 1.3 minutes; from the two values I deduce a spread of 46.1 minutes, as the best attainable, with an indicated uncertainty of 0.8 of a minute.

The final value may be expressed in more familiar terms if we reduce it to linear feet. Adopting the height of the line of springing of the vault arches above the pavement as equal to 78.7 feet (Viollet-le-Duc), this corresponds to a spread of 1.055 feet in the nave.

Similar measurements on the negatives of the transepts gave 16.9 minutes and 16.1 minutes, respectively. A reduction of the mean of these two values gives 0.378 feet for the spread of the transept. The disparity of these two spreads seemed somewhat surprising, but it occurred to me that it might have some relation to the relative lengths of the two colonnades. The only plan of the church accessible to me is that contained in Fergusson's familiar work; this gives the ratio of the length of the church to its width as 2.71, while the ratio of the two divergencies which I found is 2.79. This agreement of ratios is most striking, and renders it difficult to escape the conviction that the architect fixed upon it for reasons of his own. If we admit design it presents us with one of the most delicate refinements yet noted.

In the measures of angles, there was no certain indication of fortuitous differences; but there is strong evidence that such accidental errors, if as great as one fiftieth of the total divergence in the nave, would have hardly escaped detection.

After the inclinations were measured, the negative (a) was placed on a comparator and the absolute separation of the images of the inner faces of the piers was determined. It was also found that the ratio of the width of the nave at each pier to the height from the

\*This is the numerical value of the probable error deduced from the group of measures. This explanation will render my meaning perfectly clear to those familiar with the theory of errors.

pavement to the springing line of the vault was constant. This was found to be 0.386, with an uncertainty of one-fifth hundredth of the whole value. In order to interpret the measures, it is necessary to have some dimensions given in known terms. Fortunately, I have three such standards at command: first, the plan drawn to the scale of 100 feet to the inch in the well-known work of Fergusson; second, the elevation of a bay of this church, with attached scale in the dictionary of Viollet-le-Duc; and, third, the known focal length of the camera with which the negatives were made, namely, 15.0 centimeters. Any one of these data would yield values for the real dimensions of the measured features of the nave, and such derivations from each should agree with those from the others within the limits of errors which we are forced to ascribe to the data themselves. It may be stated at once that, since a careful study failed to detect any significant errors in any one of these quantities, as compared to the others, we may have a corresponding enhanced confidence in the results.

These data, with my measurements and some obvious deductions, are contained in the accompanying table. I arbitrarily assume that the pier height, given above from Viollet-le-Duc, is that of the fifth pier from the crossing; hence, from my determination of the ratio of width to height, the width of the nave at this point is 30.41 feet.

TABLE I.\*

Pier	D	N	S	w	W	W'
1.....	162.0	.....	-2.054	.....	.....	30.87
2.....	182.7	+0.716	-1.808	2.524	30.76	30.76
3.....	203.4	+0.653	-1.601	2.254	30.58	30.64
4.....	224.1	+0.601	-1.440	2.041	30.51	30.52
5.....	244.8	+0.556	-1.300	1.862	30.41	30.41
6.....	265.5	+0.506	-1.200	1.706	30.21	30.30
7.....	286.2	+0.460	-1.122	1.582	30.21	30.18
8.....	306.9	+0.419	-1.052	1.471	30.11	30.06
9.....	327.6	+0.380	-0.990	1.370	29.94	29.95

\*This table has been given in full because any one by means of it can test independently my conclusions either by calculation or by construction on the drawing-board.

Here D is the distance in feet from the position of the camera to the planes of the several piers as derived from Fergusson; N and S are, respectively, the micrometrically measured distances from the vanishing point of east and west parallel lines in negative (a) to the

several piers on the north and south sides of the nave, expressed in centimeters; and W are the corresponding apparent widths in the same unit of length. Pier 1, on the north side, is hidden by the crossing pier, and hence does not appear in the last-named column.

A casual inspection shows that the products of D by W are not constant throughout the table, as they should be if the apparent convergence in the picture were due to perspective alone; but instead of being constant, they continuously diminish with increasing D. To test this, I have multiplied each of the products by a number which will yield our arbitrarily assumed width of 30.41 feet at piers 5, and entered the results in the column headed W'. Clearly, there is a narrowing towards the west. If we assume a total narrowing of 0.92 of a foot from pier 1 to pier 9, equally distributed through the eight bays, we have the numbers given in column W'; the differences between W and W' afford a measure of the precision of the construction. These differences indicate an uncertainty in the width of only 0.03 a foot, which obviously includes the real errors of the structure and my own errors of measurement. Of course, in view of the established constancy of the ratio of height to width, this means that the vault also is lowered towards the west.

This wholly unlooked-for discovery prompts the question as to whether the conclusion can be avoided by any modification of one or more of the fundamental constants upon which it rests. A serious investigation from this standpoint has been unfruitful, hence I am obliged to assert my belief in the reality of the feature.

An inspection of either of the photographs (a) or (b) shows that the axis of the nave is not a straight line; it seems to be a delicate curve of long radius convex northward. The above table enables us easily to test this impression. After finding from the negative (b) that the first pier on the north side is 0.120 of a foot south of the line joining the second and ninth piers, I





FIG. 1.

find, by a calculation the nature of which is almost obvious and need not detain us here, the offsets of the individual piers on each side as given in the accompanying table.

Pier.	N	S	Mean.	Calc.
1.....	0.000	0.000	0.000	0.000
2.....	0.120	0.110	0.115	0.152
3.....	0.296	0.350	0.323	0.304
4.....	0.455	0.482	0.468	0.452
5.....	0.598	0.614	0.606	0.604
6.....	0.528	0.590	0.559	0.583
7.....	0.390	0.372	0.381	0.389
8.....	0.229	0.173	0.201	0.194
9.....	0.000	0.000	0.000	0.000

Here N and S are the offsets for each pier in fractions of a foot from the line joining the first and ninth on each side, in every case to the north. The next column is the mean of the two which may be taken as a determination of the deviation of the axis of the nave from a straight line joining the point midway between the first piers, north and south, and the corresponding point between the ninth pier. The accompanying figure (Fig. 1) exhibits the deviations greatly magnified, the scale being twenty times as large in the north-south direction as in the east-west direction. The dots in the small circles represent the quantities in the fourth column of the table. It is at once evident that the points do not lie on a curve, but very nearly on two straight lines, represented as dotted lines in the figure, which intersect in the middle of the sixth bay. The agreement with this supposition is strikingly accurate; indeed, if 0.680 foot be adopted as the offset of this point of intersection, and the values and the offsets at the various piers be calculated, we derive the figures of the last column, which may be directly compared with my measurements in the other columns.

The positions of the mid-points of the piers at the crossing are certainly very nearly on the same line as those of bays 1 to 5.

The material for a study of the construction of the cathedral at Rheims, consisting, as it does, of a single nega-

tive, is far less comprehensive than that of St. Ouen. Moreover, the position of the camera was not so favorable for our purposes. Its height was so great that the piers below the capitals of the great arcades cannot be studied, although we know from Professor Goodyear's observations that these piers are vertical. In the negative all the great piers at the crossing are well shown; on the south side eight of the vaulting shafts are well adapted for measurement, and on the north side seven. The measurements show readily that all of the crossing piers are parallel, and also, since there is a conveniently placed chandelier rope in the picture, that they are strictly vertical. The declinations from the vertical which follow were either determined from a crossing pier or from this rope hanging from the vault, whichever seemed the more convenient at the moment. As in St. Ouen, the vaulting shafts are rectilinear, but, unlike that example, they are not all parallel on either side. The shafts nearest the crossing are but slightly inclined outward, while the fourth, fifth and sixth on each side have nearly similar inclinations; the seventh on each side again approaches closely the vertical. Viollet-le-Duc gives, for the distance from the capitals of the nave to those at the top of the vaulting shafts, about 52.5 feet; this constant yields with my measurements the leans for the shafts given in Table III. in the horizontal rows marked "Obs."

Pier—	1	2	3	4	5	6	7
North { Obs.	0.235	0.434	0.631	0.677	0.675	0.648	0.092
{ Cal.	0.221	0.442	0.664	0.664	0.664	0.664	....
South { Obs.	0.163	0.342	0.490	0.653	0.683	0.648	0.055
{ Cal.	0.141	0.282	0.423	0.664	0.664	0.664	....

It is evident that the leans on both north and south side for the piers 4 to 6, inclusive, are practically the same. If we assume that the mean of these measured values, namely, 0.664 feet, to be that prescribed for this portion of the



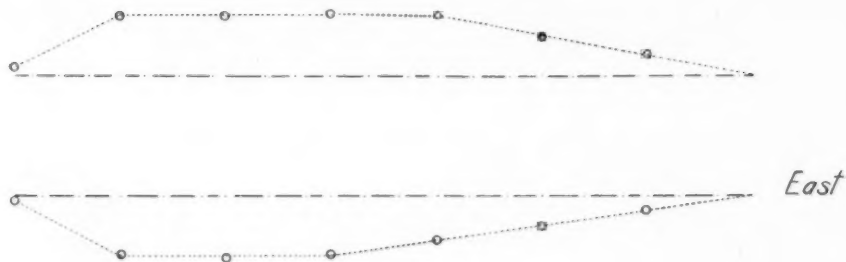


Fig 2

nave, we are forced to admit that the wonderful masons who built this cathedral could be relied upon to erect shafts with an uncertainty of inclination of less than 0.011 feet in a length of fifty feet. Such precision, if admitted, demonstrates a most curious fact: the builders of the north side of the nave made the change from the vertical position at the crossing piers to the normal lean of the nave in three steps, while those of the south side made the change in four steps. At least this is the only interpretation of the measures which reduces the errors to the established limit as appears from the values in the lower lines, which are calculated on this theory.

A graphical representation of these offsets, observed and calculated, appears in Fig. 2, where the same twentyfold exaggeration of offsets, with respect to pier separations, is followed as in the previous figure.

This is the only departure from geometrical simplicity in construction which I have found giving rise to a suspicion of a real error or mistake; at least so

capricious a variation from a definable system seems hard to understand otherwise. In any case, it is curious that such a singularity seems to have escaped observation hitherto for seven hundred years.

The conclusions in this paper, derived from a series of measurements of photographs, may be admitted to have great interest; but it seems to me that the true value of the investigation lies in two of its features. In the first place, it exhibits a method by means of which architectural monuments can be surveyed with an expenditure of effort incomparably less than that required for a thorough survey by direct measurements. The other feature, of perhaps still greater importance, is that, as far as known to me, it constitutes the first effort that has been made to determine the lower limit of precision which we ought to attribute to the mediæval masons. In any discussion as to the origin of the deviations from geometrical simplicity in these structures, this datum is clearly of the highest importance.

*Charles S. Hastings.*

## ✓ The Architect in History

### III.

#### The Architect During the Dark Ages—Part II.

**LEADERS OF THE REVIVAL.**—On the threshold of the Romanesque revival two names stand out in the field of architecture with especial brilliancy, both of them in the ranks of the higher clergy—Gerbert, Archbishop of Rheims, chancellor of the German emperors and Pope (Sylvester), and William, abbot of S. Benigne at Dijon. Gerbert, a native of Auvergne in Central France, went to Spain to complete his education in the Moorish universities, where he secured a more thorough training in scientific and mathematical studies than was possible elsewhere. He appears to have become an architectural theorist. The application of mathematics to architecture, somewhat neglected since the time of Constantine in the west, was the basis for the new Romanesque era, which dealt with the use of the vault and with the various problems connected with it. This seems to have been the characteristic of Gerbert's teaching at Reims on his return from Spain toward 990. His school made rapid progress if we are to attribute partly to its influence the use of the vault in the central and eastern provinces of France during the first quarter of the eleventh century. Gerbert became Pope Sylvester in 999. Like most of the scientists of the Middle Ages he was suspected of intercourse with the Evil One. But his contemporaries, especially men like Dicesus, his pupil in architecture, did homage to his learning and skill. Perhaps he was the father of scientific medieval architecture.

The second leader, William of Dijon, was less of a theorist than a practical architect, and his importance among monastic builders is due mainly to his enormous activity over a large field and to the international character of his school at this crucial time. The great resemblance between the Lombard and Norman schools of the succeeding century may be largely due to him. Will-

iam, a native of North Italy, and educated in a monastery at Rome, was carried thence to Cluny in Burgundy by Maiolus, abbot of that greatest centre of French monasticism. There he remained until, through the influence of Cluny, he was placed at the head of the great monastery of S. Benigne at Dijon at the close of the tenth century. After a visit to Italy, especially to its Benedictine monasteries, he gathered about him at Dijon a large number of Italian architects and other artists. Italian bishops and abbots even came from Rome, Ravenna, Milan and elsewhere to live under him.

A contemporary chronicler says that Bruno, the bishop of Dijon, in the rebuilding of S. Benigne which then took place, contributed the funds and secured the columns, while Abbot William engaged the master builders and gave them the plans and drawings. This epoch-making work was founded in 1001. The crypt alone contained 104 columns in five aisles. The whole work was international: the meeting ground for the new Lombardo-French Romanesque style.

Very soon, in 1010, Duke Richard called upon William to reform and rebuild the monasteries of Northern France. He is said to have done this for about forty monasteries! His selection as heads for important monasteries of his Italian friends such as John of Rome and John of Ravenna shows the way in which Lombard influence in architecture may have been diffused. King Robert charged him with reforming S. Germain in Paris, and his influence extended through Burgundy, Lorraine, Flanders and many other French provinces. He began the new line of great medieval architect-abbots.

**SCHOOL OF CLUNY.**—The school of Cluny, however, must be largely credited with the development of which William

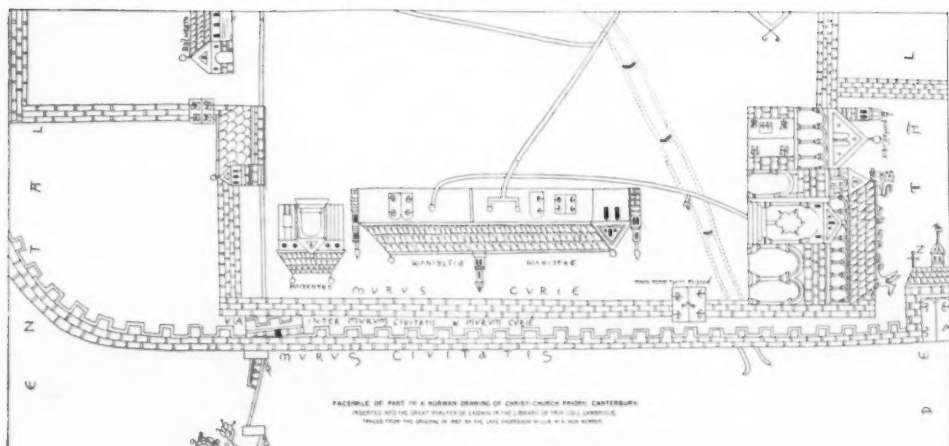
was a notable product. His patron abbot Maiolus (994), the reformer of the papacy, the favorite of Otho I. and Otho II., was succeeded by Odillo, who boasts, in imitation of Augustus, remark about Rome, that he found a monastery in wood and left it in marble; and under St. Hugh, his successor, Cluny had sway over 314 monasteries and churches and became the greatest architectural arbiter in Europe. It was St. Hugh who rebuilt Cluny in 1089 according to plans drawn up by a monk named Gauzo and carried on by the equally noted architect Hezelo, also a monk of Cluny itself. The church of Cluny was at the time the largest in the world and was later surpassed only by a few. Its effect on architecture was enormous. Its two authors are among the immortals. The career of Hezelo is interesting. He was a wealthy canon of the church at Liege in Flanders, renowned for erudition and eloquence, but he gave up everything to become a monk at Cluny, with the mere title of *cementarius*, or mason, so that he could direct the construction of the new buildings. He was no exception. There grew to be a tremendous enthusiasm for building all over Europe, and the men who had a practical knowledge of architecture and art were more than likely to reach the highest positions in the church. In Italy, for instance, the monk Theobald of Monte Cassino, after he had rebuilt S. Liberatore, was put in charge of it, but was soon called back to Monte Cassino itself as its abbot (1022). In Germany the Bavarian noble Thiemo was made abbot and then Archbishop of Salzburg, and on being captured and martyred by the Mohammedans, testified to being an architect. In Flanders one of the greatest nobles, Count William of Ypres (c. 1150), in the artistic help he gave Abbot Leonius in the construction of the famous monastery of St. Bertin at St. Omer, is likened to Hiram of Tyre helping Solomon.

RELATIONS OF MONK AND LAY ARCHITECTS.—The relation of monks and laity among architects and artisans during this time (tenth to twelfth century) were very varied in the practical carrying out of the work.

Sometimes it was the monks who directed and the laymen who worked under them. For instance, when two architect-monks of the school of Nonantola, in north Italy—Pietro and his nephew, Buono—rebuilt St. Michele in Borgo at Pisa (990-1018), they employed lay masters and laborers. At other times it was the monks who worked under a lay architect, as at San Pedro de Montes, near Astorga in Spain, where, in 919, the church and monastery were built "with the sweat of the monks," under the direction of the architect, Vivianus. Even an abbot did not disdain to be a simple laborer, like Hugh, Abbot of Selby in Yorkshire (1090). Sometimes there even seems to have been some rivalry between laymen and monks at the same monastery. At Ramsey Abbey, between 980 and 990, the great tower was built by the lay masons, while the church itself was rebuilt by Aednoth and other young monks.

TENANT-ARCHITECTS.—It is in England, perhaps, that we find developed with greatest consistency the system of free tenancy at monasteries during the last century of this period. At Ramsey Abbey there was always at least one mason or architect as tenant, and it was the same at Malmsbury, St. Edmunds and others. When any building operations of importance were in progress one monastery would loan its tenant-masons to the other, and their free condition is proved by their ability to act as witnesses to public documents. In France, the privilege of being the special mason of a bishop, abbot or noble was often in the nature of a brief, *feudus*, carrying with it privilege and immunities, as well as board and lodging, freedom from taxes and personal protection, except in case of murder and duelling! This was developed, however, especially during the early Gothic age.

MONASTIC SUPREMACY UNTIL 1150.—After the revival of the eleventh century had thus gained headway, the architectural movement remained throughout Europe in the hands of the monasteries for over a century, though lay architects became everywhere more and more prominent as the twelfth century



AN EARLY MEDIAEVAL DRAWING.

advanced. They had, even earlier than that, become supreme in Italy, which cast off the monastic leading-strings fully a century before the rest of Europe, while England was the last in the race.

The two principal monastic groups for this period are (a) the black Benedictines, with Cluny in the lead; (b) the white Benedictines, or Cistercians, deriving from Citeaux, also in Burgundy. Among the numerous monastic centers or schools of architecture of the black Benedictines, besides Cluny, I will single out for mention that of Hirsau, whose influence during the eleventh and twelfth centuries was so extensive through Germany. Perhaps influenced by Cluny and by other French schools, such as that of Auvergne, it propagated certain architectural features, such as the radiating choir, and did a great work of proselyting not only in monastic, but in cathedral and in parish churches. But the best representative of an organized system of monastic architecture is that of the Cistercian order.

**CISTERCIAN ARCHITECTS.**—The Cistercian school of architects certainly pushed the absorption of the individual by the system to its extreme conclusion, according to the strict precept of St. Benedict. We hardly know the name of a single individual architect of the order. The Anselm who built for them their establishment at S. Pastore, near Rieti, probably was a layman. Quite

exceptionally do we learn, and then not by inscribed memorials, of the names of some of their master architects, such as the three converse monks of S. Galgano, who were successively in charge of the works of the cathedral of Siena in the thirteenth century.

The peculiar unity in the style of the buildings of the order throughout Europe proves two things. First, that it had a distinct school of architects, whose art was largely moulded by certain considerations of general policy, partly even embodied in the constitution of the order; second, that this art originated in Burgundy and was often practiced outside of this province, and even outside of France itself by Burgundian artist-monks, who were sent around Europe to build the new establishments for the order.

The artistic policy of the order was distinct and so peculiar as to make it stand alone in Europe. It neglected, and even opposed, figure sculpture, stained glass, wall painting, decorative work of all kinds, illumination of manuscripts, goldsmith work, ivory carving, woven and embroidered vestments. It did so under the guidance of its great leader, St. Bernard, through an impulse of revolt against the luxurious forms of religious art, so dear to the black Benedictines, especially to the school of Cluny. So, the Cistercian architecture was almost a pure form of *construction*, without æsthetic preoccupations even in its archi-



tectural forms, until the order became inoculated, here and there, with the prevailing delight in the pure beauty of workmanship.

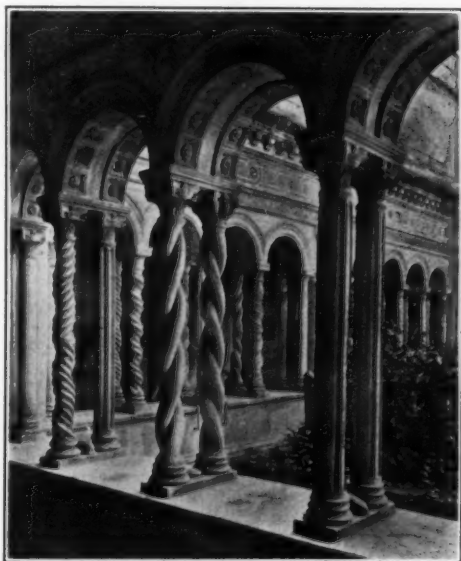
There was also a distinct difference to older monastic custom in the Cistercian method of training and using their architects. The majority seem not to have been stationary, attached to any one establishment, as had been the case with the older monasteries; but to have been sent about from one monastery to another, even from one country to another, wherever their services were required by the order. They had, therefore, constant experience in large *chantiers*. These men were of two classes: members of the order and outsiders. The members were not usually full monks, entitled to wear the white robes, but brothers—*conversi*, dressed in black and white, and allowed far more liberty, as had always been the case, than the full monks. They could be transferred from one monastery to another; could live in the priories and granges of the order and elsewhere outside the monastic enclosure, as the full monks could not; could be loaned to bishops, feudal lords and cities to direct architectural work. In this way we see the Cistercian forms spread to cathedral architecture and even to civic and private buildings.

The enforcement of unity of style was an interesting part of the general Cistercian system of government, intensely practical and centralizing. Up to this time there had been no administrative unity in monasticism. Each establishment had been autonomous. Only a sort of loose union had begun to be practiced by a few Carlovingian monasteries, and had been strengthened by Cluny; there had been nothing really organic about it. But St. Bernard built up the Cistercian order into a centralized and strongly disciplined army, obeying one will and one policy. Each monastery exercised regular supervision over its daughter establishments founded by its members, and, in turn, was responsible to its own mother monastery, and this, in turn, back on its genealogical tree, until the mother of all was reached—Cîteaux in Burgundy, which

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gave its name to the order, and where the general head received annual reports showing the exact condition of the thousand or more monasteries in all parts of the world. Cîteaux could reach out to the ends of Europe. This explained the unity of architecture and the rapidity of construction, the whole phalanx of artists and artisans moving rapidly from one monastery to another as each was completed.

Take the Italian Cistercian monasteries of central Italy, with which I am



BASILICA OF ST. PAUL, ROME  
Corner of the Cloisters.

most familiar. Here, the French builders sent from Burgundy between 1170 and 1180, went to the monastery of Fossanova, which they rebuilt almost entirely in about twenty-five years. During this time they formed a number of Italian pupils, so that when, toward the close of their work at Fossanova, they were needed in different directions, each group of French *conversi* could take with him several Italian pupils. Casamari, Arabona, San Martino, near Viterbo, Valvisciolo, and others kept them busy between 1208 and 1230, and at Casamari we can readily distinguish the very different handiwork of the Italian

pupils. This is even more evident in the slightly later work at S. Galgano, near Siena. S. Martino shows, however, that new blood was constantly coming in from France, for its church, with its heavy round columns in place of the grouped piers, shows the hand of men influenced by the Ile-de-France long after the advent of the first group of builders.

TRANSFER OF SUPREMACY TO LAY ARCHITECTS, c. 1150.—Viewed as a whole, and throughout Europe, honors were easy during the twelfth century between monastic and lay architects, the former dominating during the first, the latter during the second half, in nearly all of Europe. The two exceptions—Italy, where laymen dominated from the beginning; and England, where monks dominated to the end—offset each other.

It is precisely the middle decades of the twelfth century, from about 1130 to 1170, that witnessed the gradual transfer of supremacy in architecture from monastic hands to the newly risen class of lay artists. Until then there had been, it is true, an abundance of lay practitioners, but they had ordinarily taken a purely subordinate position, following the lead of the more highly educated and intellectual monks, who acted as master architects and sculptors, or of the converse brothers, who were more than half monks. Thus, we still find, in 1150, that the *maitre de l'oeuvre*, in the construction of the Church of St. Genis (France), was a monk named André, assisted by three other monks from the monastery of S. André-le-Bas.

IT ACCOMPANIED TECHNICAL PROGRESS.—But the technical progress begun during the last years of the eleventh and continued throughout the twelfth century, which was evidenced in the better tooling of the stonework and the perfection of its laying, in the more sensitive feeling for outline, form and proportion, in the exquisite treatment of detail, was steadily raising the actual workman to a far higher level, both as an artist and as a man. It was inevitable that monastic workmen should be less passionately bound up in this material and æsthetic side of architectural

development. If they were monks in full standing, only part of their lives could be devoted to artistic work. They could not live all day at the works and become single-minded specialists. Even the converse or lay brothers were constantly hampered by monastic restrictions and calls to other than purely artistic work. One of the last monastic efforts to retain its hold on the artistic field was perhaps that of the Benedictine reformer, Bernard de Tiron, who, toward the middle of the twelfth century, recruited his new order among the artists and artisans of the province of Maine by giving each man full permission and opportunity to follow his regular occupation after he became a monk.

But the trend was inevitable. The victory of the layman was rendered easier because the only power in the monastic world which could then have competed victoriously, the Cistercian order, had, under the leadership of St. Bernard, unfurled the banner of opposition to the prevailing tendencies in art. It favored a severe simplicity, an absence of decoration and of color, an ignoring of æsthetic qualities, at a time when the best artists were luxuriating in the development of a new system of ornamental flora, studied from every variety of natural forms, were delighting in the grouping of varied mouldings that should give play of light and shade, and were expressing in sculpture and stained glass an encyclopædic wealth of symbolic thought in the portals and windows of the new cathedrals. The episcopacy and lay clergy, and the universities, by teaching these thoughts to the lay artist were taking a stand by his side as against the narrow, iconoclastic and sombre art theories of St. Bernard and his Cistercians. They won the day.

Henceforth, in northern Europe, the monasteries gradually gave up directing ateliers of artists on a large scale. They continued to produce and to have in regular employ their own architects, but these men were mainly occupied in the construction of the numerous monastic buildings and less and less with other works. The Cistercian establishment, for instance, with their peculiar ideals,

could best have their monasteries built or restored by their own men. Such great centers as the Monk Saint Michel, in northern France, even had a series of architect-abbots, from Bernard du Bec, in the twelfth century, to Thomas des Chambres, in the thirteenth century, to whom the direction of its superb constructions is due. In England, also, the monasteries attached to the cathedrals often continued to furnish artists and artisans, who retained in great part the direction of cathedral architecture. An interesting record of the Cathedral of Gloucester states with pride that the main vaulting erected in 1242 was built by the monks themselves, not like the previous vaulting by lay artisans; and the architects who then directed the work on the cathedral were the monk Elias, of Herford, and the prior Walter, of Saint John's.

ITALY THE EXCEPTION.—But the main exception to the lay invasion was Italy, the very land that had seen the earliest development of lay artists. Here the reverse change may almost be said to have happened, and monastic architects and engineers abounded far more in the thirteenth and fourteenth than they had in the eleventh and twelfth centuries. They belonged to the new Franciscan and Dominican orders, whose members not only built most of their numerous churches and monasteries, but were recognized general practitioners, who were active even in the fields of military engineering and civil architecture, as well as in the construction of cathedral and parish churches, as we shall see in the next paper.

Seeking now for the initial steps in this movement for lay supremacy, we find it, as we have said, seen in Italy. It is self-evident that Italy was dominated by the lay artist from the eleventh to the thirteenth centuries. It is only necessary to think of a list of the most important Romanesque structures in Italy to find how many of them are known to have been built by lay master architects. Lanfranc and Wilhelm built the Cathedral of Modena; Nicolo di Ficarolo that of Ferrare; Buschetto and Rainaldo that of Pisa; Nicholas and

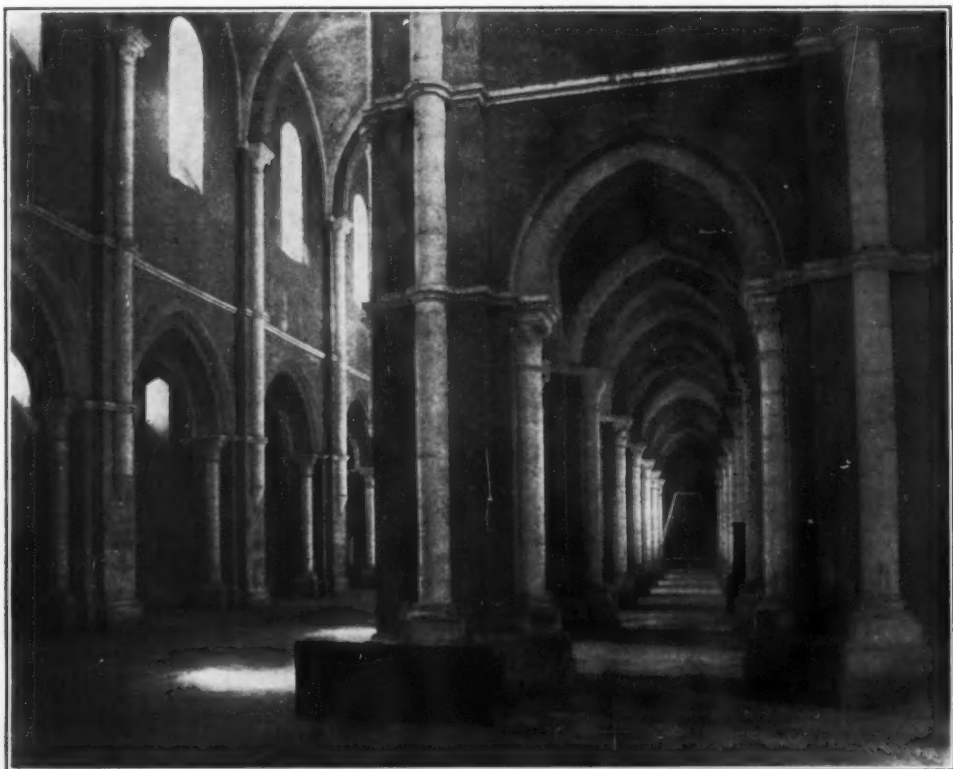
Wilhelm the Church of S. Zeno, at Verona; Diotisalvi, the baptistry and S. Sepolcro; and Bonanno the leaning Tower at Pisa; Roger, the cathedral at Bari; Uberto, that of Treviso; Ogni-bene and Tiberio, that of Cremona; Adamo d'Aragno, that of Trent; Guidetto, that of Lucca; Rainaldo Santo, that of Piacenza; Antelami, the baptistry at Parma; Agnus, S. Cataldo at Lecce; Blasius, S. Niccolo at Bari. There is a host more, authors of less important buildings.

If we cannot attribute to special artists any corresponding number of important buildings in northern Europe, it may be partly because, as during the same period—eleventh to twelfth—the work here was largely under the direction of the monastic architects or their pupils, and it was against the rules of these men to sign their works. It happened that even when laymen did the actual artistic work they often left no record. M. de Mély has, however, been recently doing good work in collecting such signatures for the twelfth and thirteenth centuries, especially in southern and central France. A few names come to us from Germany in the twelfth century: *Enselinus laycus*, who worked in 1133 at Würzburg Cathedral, and *Alberon laicus* at Cologne; but they merely emphasized the monastic control. Curiously enough, it is Spain which furnishes the best instances, next to Italy, of early independent lay architects and of privileges accorded to them and their workmen. The famous Froilac was, in 1133, royal architect for King Alonso Henrique when he built S. Juan de Carouca in Portugal; and Pedro Cristobal, in 1132, rebuilt the Premonstratensian monastery of San Cristobal de Ibeas.

EARLY SPANISH ARCHITECTS AND CONTRACTS.—In the same decade we find [the earliest] the earliest preserved contract in which the master architect is paid an annual salary in money and kind, and has no responsibility except for his own work. It is that which Raymundo de Montforte made in 1129 with the bishop and chapter of the cathedral of Lugo in Spain. He was made master of the works at an an-

nual salary of 200 sueldos, together with 36 yards of linen, 17 cords of wood, shoes and garters, as needed; and beside that, each month two sueldos for meat, a measure of salt and a pound of candles! In return, Raymundo bound himself to personally assist at the work all the days of his life, and should he

for the divine sanctuaries, "I, the King . . . do give and concede to you, Master Matheo, who art invested with the primary and mastership of this great sanctuary, the payment, annually, out of my treasury, in the coin of St. James, of the sum of two marcs every week, and when omitted one week it shall be



CHURCH OF THE CISTERCIAN MONKS AT FOSSANOVA.

die before it were completed, his son was to finish it.

Other Spanish architects, however, were given far more power than Raymundo. We may infer this in the case of Matteo, appointed master of the works of the great national shrine of S. Jago de Compostella, at Santiago, in 1168, by King Ferdinand II. of Aragon. The original royal grant to Master Matteo is a notable document, witnessed by numerous bishops and grantees, and it states, in brief, that, in view of the royal duty to suitably provide

made up in a subsequent one, so that the entire sum shall amount to one hundred maravedis annually. This remuneration do I make as a gift to you during your entire life, to the advantage of the works of St. James and of yourself, so that the above works may be the more diligently overseen and managed. Should anyone infringe on this my spontaneous gift, or attempt to do so, he shall . . . incur our royal displeasure and be excommunicated until he has paid over to you the sum of one thousand go'd pieces."



Royal patronage and supervision extended in Spain even to the men who worked under the master architect. For instance, during the course of the construction of Salamanca Cathedral, King Alfonso, in 1152, exempted the 31 men who were at work on it from all taxes and tributes, and this was repeated by Ferdinand II., in 1183, for the 25 men who were then completing the structure.

**POWER OF ARCHITECT.**—The authority often exercised by the master architect in these earliest times, in case they were also administrators of the building funds and had financial, as well as artistic, control, is exemplified by what I believe the most interesting document of its age, also Spanish, the contract by which an architect named Raymond, a "Lombard," agreed, in 1175, to build the Cathedral of Urgel in Catalonia in the term of seven years. This is a translation:

"I. A—, by the grace of God bishop of Urgel, with the advice and consent of all the canons of the Church of Urgel, do hand over to thee, Raymond the Lombard, the works of [the cathedral of] the Virgin Mary, with all the properties, movable or immovable, such as manses, allodial fiefs, vineyards, tax-rates, oblations for sins and penances, offerings of the faithful; together with the rates of the clergy and all other things that do now or shall in the future in any way be considered as belonging to the above works of [the cathedral of] the Virgin Mary.

"We furthermore do give thee the portion of a canon for all the rest of thy life.

"All on the condition, namely, that thou do faithfully and without deceit enclose for us the entire church and erect the towers or campanili one story above all the vaults, and shalt make the dome-tower well and properly with everything pertaining to it.

II. "And I, R—, the 'Lombard,' do make covenant with the Lord God and the Virgin Mary and the Lord Bishop and all the clergy of the church of Urgel, both present and to come, that I shall, if I have life, perform everything as is here set forth, beginning with

the present Easter in this year of our Lord 1175, and for the ensuing seven years, faithfully and without deceit.

"And that each year I shall have and hold in the service of [the cathedral of] the Virgin Mary, myself the fifth, that is, four 'Lombards,' beside myself, and this both winter and summer continuously. If I am able to complete the work with these well and good, but if I am not able, I shall add as many more masons as may be required to complete the above work within the given time.

"When at the end of seven years I shall, with the help of the mercy of God, have completed the work, I am to be given my board freely and quietly as long as I shall live. As for the property and money of the works, I shall be afterwards at the desire and order of the chapter.

III. "Moreover, we, the Bishop as well as the Canons, do absolutely forbid thee, Raymond the 'Lombard,' to sell or mortgage, either by thyself or by any other person, any part of the property of the works, which it has at present or may have in the future.

"As to thy property and money standing in thy own name, thou may do with it what thou please after the seven years are elapsed.

"Should it happen by any mischance that there should be such a series of sterile years that we should appear to have imposed an unfair burden on thee, we reserve the right to add to thy time limit according to our good judgment, in order that thou be not forced to scamp the work. But no one or more of us can make thee the promise of this privilege, but it must have been passed at a full meeting of the chapter after ample discussion and by unanimous vote.

"Also, whatever improvement thou may make in the property of the works shall profit the said works. If, however, in order to insure any improvement in the property of the works, it should be necessary for thee to effect a loan or exchange, this shall not be done without the advice and assent of the chapter.

IV. "I, R—, the 'Lombard,' do swear that I will perform all that is here written, and will show fidelity and hon-

esty to the cathedral church of the Virgin at Urgel according to the best of my ability, in the name of God and on these Holy Gospels."

ITALIAN LAY SCHOOLS. THE ROMAN. —I shall now turn to Italy again, as furnishing the best example of a large early organized school of lay architects.

An argument in favor of regarding the Italian art corporations of the Middle Ages as the lineal descendants of the ancient Roman institutions is the prevalence of hereditary transmission of occupation. Elsewhere in Europe this habit seems hardly to have obtained much foothold, while in Italy, though no longer enforced by law, it became, through long tradition, the rule in several schools, helped, as it was, by the habits of serfdom.

In the north, for instance, we find, toward 1200, the Campione family of architects and sculptors, headed by Anselmo da Campione, contracting to take charge of the artistic work on the Cathedral of Modena on behalf of themselves, their children and their descendants, for the daily wages of six *imperiali*, in very much the same way as a certain guild in India would contract to supply a certain village with all its jewelry for unlimited centuries!

But the most conspicuous example, as we might have expected, is the mediæval school of Rome itself, which took a leading part in the revival of art in the twelfth and thirteenth centuries. Of the thousands of works of architecture and decoration with which Rome and its provinces were then filled, from the borders of Tuscany to the Neapolitan frontier, the immense majority were the work of four or five families of artists, who were at the same time architects, sculptors, mosaicists, fresco painters and decorators. Artists of the twelfth century, by the names of Paulus, Ranucuis, Laurentius and Vassallectus, each founded a family school the names of whose members are signed to numerous works. These men produced such well-known masterpieces as the cloisters of S. John Lateran and S. Paul outside the walls, the basilicas of S. Maria in Trastevere, S. Lorenzo and S. Crisogono, the

cathedrals of Civita Castellana and Terracina. All the mediæval bell towers, such as those of S. Cecilia, S. Maria in Cosmedin, S. Pudenziana, the Lateran, and a host more, so characteristic of Rome, are their work. The entire building, from its foundations to the minutest detail of its ornamentation, was the product of the family, including that marvellous system of geometric ornamentation in brilliant mosaic cubes that connects this school with the Greek Orient. It was characteristic of portals, cloisters, choir screens and seats, altars and confessions, tabernacles and ciboriums, pulpits and paschal candlesticks, sepulchral monuments and pavements.

The cloister of Subiaco is particularly interesting as showing by its inscriptions that it was the work of three generations of artists of one family.

On account of the hereditary character of the Roman school and its all-embracing activity, there is a homogeneity in the variety of its products that is nowhere else seen before the developed Gothic age in France. It is probable, but not certain, that these artists belonged to the stone masons' guild of Rome. It seems certain that each family school had its own workshop or lodge, with *ateliers* for the different branches of art. The family *ateliers* of Laurentius were in the quarter of the Via Lata (Corso). Depending as largely as they did on the use of marble columns, cubes, slabs and architectural members for their building and decorative material, and even for their cement and plaster, these artists found it convenient to establish workshops and lime kilns within or near the ruins of one of the principal monuments of imperial Rome, such as the mausoleum of Augustus, the Circus Flaminius, the Isæum, the imperial buildings on the Palatine, and the Roman Forum. While it is difficult to remain unruffled when one realizes that the myriads of marble cubes and slabs\* used in the pavements and decorations of the Roman churches were all torn from antique buildings, it must be re-

\*These artificial quarries were preempted by certain families of artists, very much as a miner's claim.

membered that in any case they were doomed to ruin in time, and that their desecration went hand-in-hand with their study and imitation. The capitals, bases, cornices and friezes turned out by these mediæval artists of Rome are often so wonderful an imitation of the antique as to have deceived architectural students. A statue of Aesculapius, signed by Lucas, a grandson of Lauren-

dle Ages. They shared the plunder of antique Rome even with the northern artists beyond the Alps, and what we see of antique or early Christian in the basilica-like churches of Europe, especially those of Tuscany, is due to the influence of these Roman architects of the eleventh, twelfth and thirteenth centuries. Men like Giovanni Pisano, Arnolfo di Cambio, Cimabue and Giotto



ABBEY OF CASAMA—THE CHAPTER HOUSE.

tius, and found on the site of the family workshop, proves how they imitated even figured sculpture, and the sphinxes of the Lateran cloister by Vassallettus seem to have been copied from those of the antique Isæum and Serapeum. The delicate Ionic order revived for a while under their chisel as nowhere else in Mediæval Europe. In fact, their proto-Renaissance style of sculpture and architectural memberment, combined with their semi-Byzantine scheme of color decoration in mosaic, form the most interesting bond between the art of the antique world and that of the later Mid-

went to school with them in Rome and were touched by their spirit.

There are two characteristic traits of these Roman artists that must not be overlooked: that they traveled extensively, and that they prepared monuments in their Roman workshops for shipment by raft or ox-carts. Their peripathetic habits are attested by numerous inscriptions and documents. Two of them—Pietro and Oderisio—went as far as London to decorate Westminster Abbey with its shrine of Edward the Confessor and its mosaic pavement, for which even the materials were brought from Rome.

As examples of works prepared in Rome and shipped, I may cite the main portal of S. Maria Maggiore at Toscanella, whose beautiful white marble and high finish stand out from a façade otherwise the work of local artists; and especially the older part of the marble cloister of the Benedictine monastery of Subiaco, which is signed by Jacobus, the son of the Laurentius already referred to. I noticed here that each shaft, capital, base, archibolt block, frieze block and even the plain pier blocks had a permanent number or mark which remained exposed, so as to enable local artisans to put the cloister together.

These Roman artists showed not only a consciousness of merit, but an almost inordinate pride of their birth as Roman citizens. Never having been in the position of monastic serfs, as most artists further north had been, they became the apostles, probably, of the new era. A brief comparison with some other parts of Italy is interesting.

LAYMEN IN NORTH ITALY NOT FREE.—The Venetian artists and artisans, for example, whose condition was largely modeled on the administration-ridden guilds of Constantinople, were a part of the machinery of government. It was specified in Venetian legislation of the ninth century that the corporations should work as ordered by the doge and the tribunes. Each guild was headed by an official appointed by the government. The government sought to force all the architect-masons to work in the public workshop, called "Corte dei Tagliapietra," which existed near San Marco from C. 1000 to 1500 A. D., and tried to prevent the establishment of private *ateliers*. Though thoroughly organized, labor of this sort was the antithesis of free labor, and was the lineal descendant of the late Roman corporations, whose serflike condition appealed also to the feudalism of the Carolingian system and so was perpetuated in many cities of the north which had no antique traditions, such as Venice had, while in Rome itself, under the fostering of the Popes, it grew to freedom.

This condition of semi-serfage under government control prevailed, in fact,

throughout Lombardy, Piedmont, Tuscany until the thirteenth century. Traces of it remain even as late as the thirteenth and fourteenth centuries: in 1271 the masons in Venice are obliged to give their work free in the building of the ducal palace; in 1248, at Bologna, the carpenters' guild serve the commune freely for its public works; the masons of Mantua, in the fourteenth century, give their services to the prince. In other cases there is an equivalent in the payment to the commune of a guild tax, as was the case for all artists and artisans of Pistoia, in 1284. At Verona the court continued to appoint the head officer, or *gastaldus*, of the guild, as in Carolingian times.

BISHOPS THE FREERS OF LABOR.—It was, in fact, under the wing of the bishops and in what we might term the episcopal and democratic, in contrast to the feudal and oligarchic towns, that the arts attained to free labor and free organization in the eleventh and twelfth centuries. In Florence we find proof of this as early as 1021, and of a mason's organization before 1094; in Pisa we have noted it expressed in legislation in 1081; in Rome and Ravenna it had commenced even earlier, as we have seen. The new liberty seems to have proved somewhat heady. Some architect sculptors, whose work seems extremely crude, in signing their "masterpieces," sometimes add self-laudatory epithets, even comparing themselves to great artists of antiquity. At all events, it showed ambition and a consciousness of comparatively improved technique.

It is especially in connection with the cathedral building in this part of Italy that we find the first gathering of artists into some sort of a voluntary association, which afterwards became solidified and developed into a guild. The earliest illustration of this and of the protection afforded these early laymen by the bishops is an ordinance issued in 1094 by Daibert, Bishop of Pisa, which both shows the civil authority assumed by the episcopacy in the hazy dawn of communal liberties, and also suggests that it may have been at Pisa itself, where the earliest of the great mediæval Ital-



ian cathedrals was built, and where the earliest permanent building workshops were established, that the first impulse was given north of Rome to free associations.

This decree reads, slightly abridged:

"I, Deibert . . . together with my brothers, canons of S. Mary's . . . moved by the reiterated requests of the stonemasons, who volunteered to give each year for the *opera* or works of the ca-

do so, unless he shall make reparation within thirty days after being warned either by this church or by the *operarius* or cathedral building inspector, or by the consuls of this city then in office, we shall excommunicate and anathematize him and expel him from the communion of Holy Mother Church."

These were the men who worked under the head architects of the cathedral, Busket and Rainald.



INTERIOR OF S. LORENZO FUORI-LE-MURA, ROME.

thedral the sum of twenty solidi, until such time as they shall leave to build elsewhere; do hereby agree that their names be written in the mass-book of our cathedral, and that their memory be always recorded by the priests, etc.

"We do also decree that the above stonemasons, in the exercise of their profession, should come and go freely and busy themselves at the works, without being hindered or made subject to extortions by any persons, powerful or weak, in our diocese. Should anyone

FINAL TRIUMPH OF LAY ARCHITECTS. —In the second half of the twelfth century laymen have become so independent, throughout even northern Europe, that they travel from one country to another, sometimes to compete with drawings and bids for some great work. Norman architects came to southern Italy, for instance, when their compatriots established their dominion over Sicily and Naples. Even a Greek Basilian monastery selected as master architect in building a church at Forza

d'Augio, in Sicily, a Norman whom they called Gerard the Frank. The great fire that destroyed the Cathedral of Canterbury in 1174 led to the first congress of lay architects of which we have any details. They gathered there from different parts of England and France, and from the competition, Master William, of Lens, a Frenchman, emerged victorious. But of this I shall tell in my next paper, because it belongs to the beginning of the period of cathedral building in the early Gothic style which is connected with lay supremacy.

As a supreme figure in the transition from monastic supremacy to lay independence in northern Europe, stands the primate of France, Abbot Suger, of St. Denis. When he started to rebuild his great national, as well as monastic, sanctuary near Paris, between 1126 and 1140, he elaborated an artistic plan, of which he tells us in two very interesting personal narratives, showing how he called lay artists from many provinces, and even planned to bring materials from Rome. St. Denis, together with that other abbey church, St. Germer, stood for the evolution of the primitive Gothic structure under monastic

control, just before it was expanded in the great series of the cathedrals under *episcopal* control at Senlis, Lens, Noyon, Laon and Paris during the ensuing half-century.

Only one question remains. How far did the monastic teaching influence *directly* the men who built the cathedrals of northern Europe between 1150 and 1250? I think it is clear that the majority of these laymen were either actually pupils of the monastic school or taught by such pupils. Even in the thirteenth century the very names of Villard de Honnecourt and Pierre de Corbie in France, of Alexander de Abyngton and Robert of St. Albans in England are derived from the monasteries to which they were attached. The story of John, a monk of Vendome, early in the twelfth century, who built part of Le Mans Cathedral, shows that he left his monastery to become a free architect. But the laymen who were pupils of a monastery, without being members of the order, did not need this severe wrench. They merely transferred their services from monastery to bishop. How this was done will appear in my next paper.

A. L. Frothingham.

# NOTES & COMMENTS

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## DESIGN AND THE MATERIAL

The recent competition conducted by the Brickbuilder for a ten thousand dollar country house of hollow tile construction brings out the fact that architects generally do not as yet sufficiently appreciate the nature of this material. Or, is it that they are too conservative to fully grasp the new opportunities for expression which it offers them? The prize and mention designs of this competition which appear in the current issue of the paper above mentioned are characterized chiefly by their lack of idiomatic design than by any sufficient courage to honestly express the facts of the case. Out of those published only one exhibits a departure from the traditional form of wooden pitched roof construction, and in this one, as the jury of award points out, the author commits minor infelicities, especially in the handling of the cornice, which, in a flat roof house is, of course, about the most important feature of the design and sufficient to make or mar it. The problem seems to have been best appreciated by the authors of the published designs as far as general exterior wall treatment goes. Most of the designs reproduced show a commendable simplicity and general reticence of exterior which must certainly be credited as a beneficial influence of hollow tile as a structural material. It is not possible to trace a similar influence in the plans of these designs except, here and there, perhaps in the concentration of the windows which again is a gain towards a more reasonable standard of country house design. The advantage of concrete as an auxiliary material in the form of beams and columns to carry long spans does not seem to have been particularly availed of.

On the whole, one must confess to a disappointment in the lack of faith in the material displayed in the designs of the Brickbuilder competition. The best elements of design which it has brought out already stand duplicated in execution and studied with a degree

of thoroughness which would call for very serious study, indeed, to produce the next step in the development of the design.

## DESIGN AND CONSTRUCTION OF A CONCRETE HOUSE

Another interesting attempt to produce a design in a material used in a new way is the concrete house, illustrated in the May and later issues of Cement Age. The author of this design presents a very commendable method of attaching his problem of which his title is expressive. By so closely linking design with construction he admits to himself and states it as his belief that in order to design an economical as well as an attractive house in concrete it is absolutely necessary for the designer to closely acquaint himself with the nature of the material. This the author of the design referred to has apparently done and the fruits of his researches are seen applied in the design, which he describes at some length. The design that he produces is perhaps not quite what some of his friends would have expected. It is odd, we must admit, but it does honestly attempt to explain the causes which produced it. The author had of necessity to be an innovator. It is this sort of courage to dare to design fearlessly and oddly, if you please, that paves the way for progress in American architecture. This first step having been taken there will never be lacking others to take the succeeding ones that produce the fully developed product.

## MURAL PAINTING IN PUBLIC SCHOOLS

The annual report of the Fairmount Park Art Association of Philadelphia, lately published, contains the text of the address delivered by Charles H. Caffin, at the annual meeting in January. Mr. Caffin's subject, whatever he called it—it is not named in the report—was idealism. He spoke of this as "the religion of life." He said: "Men in

their quiet moments, when they stop to think, realize that there is something in them more mysterious, more a part of the great universe around them, than can be satisfied either by material acquisition or by any gratification of the claims of the individual." He thought that idealism necessarily sought expression in forms of art, and that our idealism began to show itself in outward forms in the seventies, when "the architects were, as they still are, the leaders in the movement." Coming to mural painting, he urged the placing of it in the public schools. This, he thought, would really carry art to the people. "I believe," he said, "in beginning with the young, and in not always trying to influence the child by pushing something into it. The child may have to be led and directed and instructed, but the child needs also to be let alone under the influence of good impressions. I know of no method of indirect suggestion better than to put before its eyes something that day after day will have a refining and elevating effect. Outside, the influences are too apt to be different. So much around them is squalid and vulgar; the tone of our political institutions, the tone of our shows. There is nothing more terrible than the sordidness that creeps into the young lives; never a time when it is more necessary to introduce refining influence. To bring this talk to a close, you can find no nobler way of employing the arts than by putting into the schools of Philadelphia mural paintings that shall be suggestive of the beauty of nature and the beauty of the idealism of our race and country."

#### PROCEEDINGS OF ONTARIO ARCHITECTS

considerable matter of general interest. There has been a good deal of discussion there regarding an effort to have the government require a license before one can practice architecture, and to secure expert professional examination by putting that matter into the hands of the association. To meet criticism successfully, it is proposed that by act of legislature all bona fide practising architects in Ontario shall be made members of the association, and that a reasonable government control shall be exercised over the decisions of the body. This was strongly urged in the president's address. He advo-

The ninth annual volume of the Proceedings of the Ontario Association of Architects, covering the transactions of the 1909 convention, has been issued, and contains

cated also the adoption of general building laws covering the whole province, making the point that, while the cities might be fairly well protected by local ordinances, the small towns were not so protected, and that consequently many a school house, town hall and theatre was so constructed as to invite catastrophe. Another good suggestion in the address was that the association "should co-operate with other professional bodies in a movement, either by petition or popular agitation, seeking to have all professional experts who give evidence in court, appointed by the judge," instead of by opposing counsel, "and thus placed in a perfectly impartial attitude." The president called attention, too, with his approval, to an omission in the by-laws and to the amendments proposed to remedy it. These, which subsequently were adopted, require that no member of the association shall act in the dual role of architect and of contractor, and that "no member shall accept direct or indirect compensation for services rendered in the practice of his profession, other than the commission received from his client." An important matter which received much attention was proposed, the affiliation or amalgamation with the recently organized Architectural Institute of Canada. A committee of five was finally appointed to consult with the institute as to a basis of affiliation, it being suggested that perhaps the association could retain its individuality through becoming the Provincial branch of the institute. A subject of discussion of particular interest to American architects was the levying of customs duties on imported architectural plans. The law of 1907 imposes a duty on imported drawings or copies thereof of 25 per cent. on the amount chargeable therefor in the country of origin. An elaborate report on the subject was brought in. It was declared that when large public buildings of great cost are being built from imported plans, the duty is often evaded in the following way: "Temporary offices are opened in Canada and Mr. Blank, a Canadian architect, is made associate partner with Mr. Fox (say of New York), under the firm name of Fox & Blank, under whose care the whole business of importing, receiving and elaborating a successful evasion of the payment of duty is carried out; the reward to the Canadian architect being a share of the commission or a commission for local supervision of their construction." The report recommended: "Some amendment to the Customs Act in order to deal with cases of this kind." It added: "While the present tariff gives 25 per cent. as the duty to be paid on the cost of the imported plans and specifications, yet under the arbitrary



rulings of the Customs Board—while placing the architects' charge as 21-2 per cent. on his estimate of the cost of the building, they apportion 11-2 per cent. as covering the supposed value of the specification, which (when written or typewritten) as 'manuscript' comes in free of duty, and so leaves only the balance of 1 per cent. of the commission on which to charge the duty of 25 per cent., which, to our minds, is only just one-half of the proper duty, and by so much defeats the intention of the act in revenue obtainable and as a protection to Canadian architects." In subsequent discussion the following colloquy took place: "I should like to ask how much the American government makes the rate to be paid upon buildings done by Canadian architects in the United States?" "I have yet to hear of a Canadian architect doing a building in the United States." "They make the customs so rigid that it is not worth while, I suppose?" "Yes."

#### A STATE ART COMMISSION

A bill recently passed by the Illinois legislature and signed by the governor creates a State Art Commission. It is to be composed of two architects, two painters, two sculptors and two other persons—all appointed by the governor, and is to act in an advisory capacity regarding the artistic character of any building or work of art to be placed on State property. The governor is also a member ex-officio of the commission. The recent acrimonious discussion over the design for the Illinois Soldiers' Monument, at Andersonville, had doubtless an influence in securing the passage of the bill.

#### THE NEW CAMPANILE IN VENICE

Gabriel Mourey contributes to *Le Figaro* an article about the new Campanile at Venice. April 25, 1911, the day of the festival of St. Mark, has been fixed, he says, as the date for the dedication of the beautiful new tower. The sky-line of Venice will have been without it not quite nine years—"and what do nine years count for, really, in the life of a monument ten times a centenarian, struck by lightning on seven or eight different occasions, rocked by several earthquakes, and rising afresh after total destruction?" The structure has been built to-day to a point

just below the strong cornice that terminates the brick tower. "It remains only to construct the part fretted with arcades that holds the bells—the Campanile proper—and then the enormous solid base around which runs the promenoir and from which springs finally the pyramidal roof, topped by the famous wooden angel, holding a lily branch in one hand and pointing with the other to the sky." Both tower and loggia are to be exact reproductions of the old. But the restoration is not without its drawbacks. It is said that the architectural proportions offered by the piazza never seemed so exquisitely harmonious as during the years of the Campanile's absence. There were opened new and lovely views of the Doges' Palace and its Piazzetta from the square, and of the square from them. But the writer describes climbing to the Campanile's top, and forgiving everything in finding again the old entrancing view.

#### COURSES IN CIVIC DESIGN

The school of architecture of the University of Liverpool has opened a department of civic design. This is in charge of Prof. S. D. Adshead, and was made possible by the generosity of W. H. Lever, M. P., whose interest in the subject needs no telling, and who commissioned Professor Reilly, head of the Architectural School, to go ahead. Professor Reilly has been in this country within a few months, getting American ideas on town planning, and reports made for American cities have been collected for the department's library. He said that he believed that to achieve success it would be necessary for the school to "appeal on the one hand to the architects who could dream dreams, and on the other prove to the borough surveyors that those dreams were worth consideration." He anticipated two classes of students—the architects, who wanted a widened scope to their vision, and the borough surveyors. The latter, he thought, would be the channel by which most civic design ideas would reach the city councils and be carried into effect. It is interesting in this connection to note that the theory of town planning has got, or is getting, into at least two American universities, and in neither case to architectural students specially. At the University of Wisconsin the engineering department has taken it up, and it has proved an exceedingly popular subject; at Harvard, it is to appear next autumn in the department of landscape architecture.

**WILL  
CHICAGO  
ROADS  
CENTRALIZE  
TERMINALS?**

It is reported that one reason Frederic A. Delano, president of the Wabash Railroad, declined the proffered appointment of minister to China, is that he wishes to remain in Chicago so that he may carry through his scheme for the centralization there of railway terminals. This is a project so monumental, and of such great benefit not only to the city of Chicago, but to the traveling public, that a man might well give up a good deal for it. The idea is to bring the terminals, passenger and freight, together, south of Twelfth street, between State street and the river; and to establish north of Twelfth street, between State and the river, a wholesale and warehouse district, that shall be in close touch with the freight terminals. It is not easy to estimate the number of millions that would be ultimately involved in construction; but the merest glance at the map suggests the plan's practicability and even great ultimate economy. The plans were first announced about five years ago, and were termed visionary; but they have received more respect as time went on, and as cities have grown in ambition and in daring. They are coming to a head now in the pending decision as to the location of the new station of the Western Indiana Company, of which Mr. Delano is a director, and which is the terminal company of the roads which now use the Polk street station. To move this station to Twelfth street would be a start toward the plan.

**REVIVING  
BURNHAM'S  
SAN FRAN-  
CISCO PLAN**

The revival of the Burnham plan for San Francisco, to the extent at least of creating a civic center, was given a mighty boost at a recent dinner of the Merchants' Association of San Francisco. And that is an association which creates, and in itself represents, an important section of public opinion. The first address on the subject was made by an architect, Willis K. Polk, and was a strong plea. He gave an interesting bit of history in saying that, when the plans were being worked over, the old City Hall, treated as a permanent building, was accepted as a fixed point. "An endless amount of study was given to the problem of making a satisfactory plan around the building as a hub, but failure was at the end of every effort. Finally, Mr. Burnham said, 'The City Hall is in the wrong spot. It is a misfortune.

You can't help it now. Perhaps in a hundred years from now there will be a necessity for a new building, and it will be put in the right spot. We will make our plan regardless of it.'" With the task of finding an ideal location, the young men who were representing Mr. Burnham went wrong again; but "finally," said Mr. Polk, "nearly all the studies—without any conscious propulsion on the part of the young men studying the plan—brought us to Van Ness avenue and Market street as the logical point." Here, then, it was located in fancy, and almost as the report was made the earthquake and fire wiped out the old City Hall and created the necessity for the construction of a new one. In locating that, and its accompanying civic center, there is a great chance, as he pointed out, to realize the crux of the Burnham plan. The next speaker, Thomas Magee, considered the financial aspects of the question, and what he said carried especial weight because he had been on record as deeming the Burnham plans impracticable. He gave an estimate to show that the suggested bond issue to carry out the civic center scheme would make a net addition of just one cent a year to the tax rate, and he asked, "Who would object to paying a penny to start for San Francisco the very hub of the Burnham plans?" He showed that both the tax rate and the per capita indebtedness would be still exceptionally low. He said: The supervisors have recommended this to the people. If they had not recommended it, well and good; but the ball has been started rolling and we cannot go back. We must accept their recommendation or confess to the world that we have no confidence in ourselves, in our real estate or in our future." Here he said was a great issue on which all the people could unite and pull together. "I beg you," he closed, "to hitch your wagon to a star, and rise and rise." The mayor also spoke. "Did ever a man," he asked, "who was afraid of an increased tax, did ever a man or men with their pads and their pencils figuring out percentages, did ever such men do anything to carry forward the destinies of a great city? We cannot follow such men. You follow men of imagination, men of sentiment. The courage that animated the men individually who put up these great and beautiful structures should animate the aggregate society. We must not be cowards; we must take heart and march bravely forward." He urged that not only should there be the civic center, but in the middle of it a great municipal statue to St. Francis, the city's patron saint. So is the Burnham plan revived. The vote on the bond issue takes place this summer.

**OFFICIAL  
REPORT OF  
GERMAN  
HOUSING  
TOUR**

The National Housing Reform Council in England has published in pamphlet form an official report of the continental town planning tour made under its auspices in the last Easter holidays. The report describes in detail the special features of the towns visited, and the suggestions and warnings for British—and other—municipalities to be drawn from the examples that were studied. A preface states that these are of "such importance, both in positive and negative values, as to justify the statement that before the council of any great British town undertakes the preparation of a town plan, the lessons of German experiment should be made a subject of most careful preliminary inquiry." The cities and towns which were visited included: Cologne, Düsseldorf, Wiesbaden, Frankfort, Würzburg, Rothenburg and Nürnberg. An introductory note by Henry R. Aldridge, secretary of the Housing Reform Council, declares that the "special lesson" of the tour was emphatically exemplified in the "wonderful Frankfort example of municipal foresight." He adds: "The first and last word in municipal administration in Germany would seem to be 'thorough.' In the preparation of a town plan no detail seems to be forgotten. If the prevailing winds are from the west, then the factories are placed on the eastern side of the town. Special care is given to the modern equivalents of the old city gates, the central railway stations. These are, without exception, imposing structures, and not, as in so many cases in England, unlovely aggregations of grimy buildings approached through a series of squalid streets. Money is spent lavishly on open spaces and public parks. The art of architecture is deliberately encouraged, and the consequent rivalry amongst architects has already produced many styles of architecture which, though possibly belonging only to a transition period, bear witness to the keen determination to produce new developments." He thinks that "Germany for town planning, England for cottages," would probably best summarize the impression of contrast between the two countries in the handling of municipal problems. The great Frankfort undertaking to which he referred, as exemplifying the tour's special lesson, was the expenditure by the city council of one million, two hundred thousand pounds for the purchase of an enormous area of land on the east side of the city, and then the careful planning and thorough carrying out of a scheme for a new river harbor and for what

is practically a new industrial town, with factory sites, proper railway communication, public parks, and workmen's cottages. The report contains a number of general, but authoritative, architectural criticisms, which will be summarized at a later time.

**MEDIAEVAL  
SIENA**

There have been very few books written in English about the mediaeval Italian communes, which are so meritorious in so many respects as Prof. Schevill's "Siena." The majority of such books are prepared for the consumption of tourists, and consist in nothing more than a compilation from the standard Italian or German works, and even these compilations are usually falsified by an excessive emphasis of what are supposed to be the picturesque and romantic aspects of the subject. But Prof. Schevill is a scholar, who has familiarized himself both with the documentary sources, and with the investigations of his predecessors. He has furthermore, thoroughly mastered those larger historical tendencies, of which the rise, the greatness and the decline of Siena is only one illustration. The consequence is that his book not only places the story of Siena in its proper historical perspective, but it is an accurate, well-balanced, well-arranged and sympathetic biography of perhaps the most attractive of all the Italian communes of the Middle Ages. Just because the book is well-balanced and well-arranged, it suits the purpose of the casual tourist quite as well as it does the more serious needs of him who wishes to understand the essential facts about the development and the decline of the city. It is not too long. The current of the story is not burdened with unnecessary detail. It is full of incident, but the incidents are carefully selected and presented with a sympathetic variety, which never becomes sentimental. A continual series is given of the natural scenery, in which the drama was played; but the scenery is kept as it should be—in the background. Every aspect of Sienese history—the military, the political, the economic, the constitutional, the religious and the artistic—receives its due share of attention; and the relation among these several expressions of Sienese life is clearly brought out. The domestic quarrels of a mediaeval commune and its constitutional changes may both be presented so as to present to the casual reader so to have nothing but an incidental interest, and often in respect to the latter no interest at all. But Prof. Schevill always helps his reader to

understand the thread of political development which runs through the successive revolutionary upheavals, and the constant changes in institutions and balance of power. The people of Siena, like those of the other Italian communes, were doing their best to obtain peace at home and security abroad. They showed ingenuity, patience and, within limits, self-sacrifice in their endeavor to improve their political condition. They failed in the end, because the necessary conditions did not exist which should enable their independence to keep the peace. But they made their attempt in good faith; and their experience is not without its useful lessons for a contemporary democracy.

The following is a recent letter from Professor Choisy, the eminent French authority on Mediaeval architecture, to Professor Goodyear, of the Brooklyn Institute of Arts and Sciences, on the subject of the latter's recent investigations into the architectural refinements relating to the Cathedral of Elne. The readers of the Architectural Record will recall the publication in its pages of Professor Goodyear's researches which extend over many years:

Cher Monsieur:

Je suis vraiment touché de l'affectueuse obligeance avec laquelle vous voulez bien me tenir au courant des faits qui viennent se grouper autour de ceux que vous avez signalés: Les observations sur cathédrale d'Elne sont vraiment curieuses; il fallut que l'attention fût appelée sur cet ordre de faits; vous l'avez éveillée; et maintenant que les observateurs sont avertis, les faits vont s'en présenter d'eux mêmes: Ce doit être pour vous une satisfaction bien vive d'avoir provoqué un tel mouvement d'idées; et je suis heureux de vous en renouveler

toutes mes félicitations, et avec elles, mes plus affectueux compliments.

M. Choisy.

#### PUBLIC MONUMENTS OF 1908

During 1908 there were expended, according to records carefully kept by "Monumental News," four million dollars in the making and erecting of some hundred and fifty public monuments, which ranged in cost from \$5,000 to \$753,100. Eighty-five, erected or contracted for, were of the more imposing class, usually involving large architectural structures or sculptured bronze groups. These eighty-five cost about \$3,500,000. The Prison Ship Martyrs' Monument in Brooklyn and the Soldiers' Memorial Temple in Pittsburgh and the Pilgrim Memorial at Provincetown—the latter two under way—were the most important. It is interesting to read that even in 1908 the small soldiers' monuments, with or without statuary, which are conventional in the town, numbered 57 at least and probably a good many more, as no complete record of these could be made. To think of this phase of public expenditure, is to be reminded that our country has a past as well as a future—an interesting aspect of its life that architects are not nearly as often retained to contemplate.

In the July issue the following corrections in the article on the University Club in Chicago are to be recorded:

The cuts on pages 6 and 8 are of paintings on the ceiling of the lounging room and not of windows, as printed; and figure 10 is of the front entrance doors and not of the elevator enclosures as the caption reads.